THE THREE YEAR PLAN

(1962-1965)

Nepal National Planning Council
His Majesty's Govt.

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Message From His Majesty The King

From the experiments and experiences of progressive countries, we see that enduring progress can be achieved in the economic or any other sphere only by working in accordance with a well-checked-out plan. With this lesson in view in our country also, a Five-Year Plan was prepared and implemented. But, because of the personal rivalties and rapacities to which a free scope was given by party politics in a country with traditions and situation like ours, the plan laid itself open to the justifiable suspicion of becoming, in an increasing degree, an instrument for the pursuit and gratification of individual and parochial self-interests. I think it is now no secret for anybody that, as a result of this our administrative machinary could never get an opportunity to take a firm root. Hence it is that benefiting from our past experiences, we have prepared a Three-Year Plan for the all-round development and prosperity of our nation after making as fully detailed an assessment as possible of our requirements and our financial and other resources from the over-all standpoint of practicability.

Placed as we are between two more developed nations and living as we are in this age of space travel, all of us in our country have fully realised how important it is for our country to make strides along the path of development and advancement and to attain targets of economic prosperity. And this realisation should verily form the basis of this Three-Year Plan. Hence I am quite confident that all our compatriots will give due thought and consideration to all the aspects of this plan and, bearing in mind that our individual as well as national entity will largely rest on the successful implementation of this plan, render every possible active help and cooperation for its success from their respective places and positions.

All those who have laboured to prepare the blueprint of this plan are worthy of our thanks.

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THE THREE YEAR PLAN

PART I

A. OBJECTIVES

From the long term point of view the main objective of planned economic development is to establish a progressive welfare state, designed to give expression to economic and social justice. Mere expansion of production is not sufficient to meet this objective; it is necessary to provide for the just distribution of this product among the various contributing classes. Moreover, this objective can only be fulfilled if the Plan becomes a symbol of the common desire of all the people of a country for progressive development. It is for the purpose of enlisting the active participation of the entire populace in the execution of the plan and to mobilise the latent energy of the people that His Majesty's Government has adopted the Panchayat system throughout the country.

In Nepal the task of planned economic development still wears a novel air. Before the first Five Year Plan no scheme for economic and social development had been taken up on a country-wide scale. The first Five Year Plan started in 1956 and came to a close in 1961. This plan however did not assess, as realistically as was desirable, the various economic resources of the country and the administrative capacity available to the Government. This was perhaps inevitable, since knowledge about the economy was very limited and training and experience were lacking. The execution of the plan did however provide valuable experience concerning the formulation and implementation of such plans. It developed the habit of looking at problems from an analytical standpoint and instilled into administrators the need for undertaking development works in a systematic manner. It played an invaluable role in making the people "plan conscious" and inducing officials to look at the various problems of the country in a comprehensive manner. These facts are themselves of great significance in a country like Nepal.

It is against the background of this experience that it has been found necessary to formulate a plan which is not only realistic as to content, but which has a well defined objective taking into account the capacity of the country's administration and available resources. With these ends in view a National Planning Council was set up at the highest level under the Chairmanship of His Majesty the King to formulate a scheme for development covering the next three year period. This Council, bearing in mind the factors mentioned above, decided to frame a Three Year Plan which was to start with the opening of the fiscal year 1962-63. Knowledge about the economy and various resources is, however, still scanty and moreover the organisation structure in many sectors of the economy is not conducive to development while the basic "overheads" (infrastructure) required for a sustained effort in the field of development are still in their preliminary stage. It is not therefore considered possible at the present time to formulate and execute a comprehensive plan of economic development. Consequently, the object of this plan will be to fill the gaps mentioned above and, by this means, to establish those basic conditions which are the pre-requisites for the introduction and smooth execution at some future date of a more comprahensive plan which would be designed to meet the long term objectives of planned economic growth. The present plan therefore is designed to make available basic data on the economy, to modify the existing organisational structure and to lay down the infrastructure as will be required for sustained economic growth and in this manner to lay down a basis for more effective and comprehensive planning of the future.

This Plan basically is preparatory in nature. Stress is placed therefore on the necessity of certain prerequisites such as economic and social infrastructure. In addition to this primary objective, however, the Plan also emphasizes four long-term socio-economic objectives. These are as follows:

1. The Expansion of National Production:

In order to provide for the needs of a growing population, as well as the resource requirements of future Plans, a number of measures have been included in this Plan to boost production both in agriculture and industry.

2. Maintenance of Economic Stability:

Economic instability is, of course, inimical to the success of Development Planning. Some degree of price and exchange rate stability is required if Plan targets are to be achieved. Price instability upsets the cost estimates in the Plan and renders the economic atmosphere unfavourable to growth and development. Presently, there is stability in the exchange rates between the Nepalese rupee and foreign currencies, but there has been a tendency for persistent price increases and considerable price fluctuation in recent years. The measures to be taken to stabilise prices are described elsewhere.

3 Expansion of Employment Opportunities:

Latest census data reveals that population in Nepal is expanding at the rate of 1.6% annually. This means each year we have an addition to our population of 150,000 people. Since more than 90% of our people earn their livelihood in agriculture, with the vast majority of them fully employed only a few months in the year, the primary importance of increasing employment opportunities, particularly in non-agricultural pursuits. is painfully obvious. This Plan, therefore, lays stress, wherever posiible, on "labour-intensive" projects.

4. The Establishment of Social Justice:

The eventual establishment of a progressive welfare state will require more than the mere increase in national output. The more important is the distribution of the produce also. It is important not only because the existence of extreme inequalities blunt the incentives of the populace, thus thwarting the objectives of the nation's development programme, but also because unless the distributive pattern is altered social inequities will remain entrenched. Actuated by this motive, the Plan lays heavy emphasis on agrarian reform, and the need for more social services throughout the nation.

The situation currently prevailing in the country has made it imperative that development projects conducive to the fulfilment of the above mentioned long-term objectives form the major portion of the Plan. Nevertheless, some projects originally initiated during the first Five Year Plan period are also included. To some extent the pursoses of these projects are at variance with the objectives and priorities of this Plan, and while it is not desirable that the inclusion of these projects should create a significant divergence between the actual development activity and the primary purposes of the Plan, still from the point of view of feasibility it was thought best to include these projects.

During the year 1961-62, which was an " Interim Year" for Nepal in the sense that there was a one-year gap between the first and the second Plan periods, a definite policy was established concerning the desirability of including certain projects originating from the first Plan period. During this interim year as well, a number of steps were taken, including reforms in public administration, in an effort to bring actual development activities in line with the objectives of the Second Plan.

The problem of fostering the development of any human society is not an easy one, nor, in all probability, are there any ready-made formulæ which can provide quick solutions. Any development programme based upon such an assumption would be poorly grounded.

and most likely would lead to disastrous consequences. Realism demands that the formulation of the development programme take cognizance of the diverse conditions existing in the country. And, since everything can not be done at once, there was need for an order of priorities with reference to such programmes so that the limited resources at the disposal of the country could be most efficiently harnessed for the successful fulfilment of the Plan.

6. PRIORITIES

The priorities in the Plan have been attuned to the main purpose and long-term objectives as set out above. As has already been made clear, the central purpose of the Plan is to create the "economic overheads" essential to the formulation and successful execution of a comprehensive, country-wide Plan in the future. To accomplish this top priority has been assigned to those projects aimed at providing basic knowledge of our economy, effecting reforms in the organisational structure in all its aspects, and building a basic infrastructure which will be necessary if future development is to proceed apace. In view of the scarce resources in hand this means that those projects whose aim is to promote agricultural and industrial production as well as those designed to consolidate the system of social services, all of which in and of themselves are in keeping with the nation's long-term objectives, must receive a less important degree of priority

Regarding the organisational structure, one of the main tasks of the Plan is to make adequate provision for much needed improvements in the conditions of the peasants who constitute more than 90 per cent of the total population. Since the success of the Plan inevitably depends in the long run on the active co-operation of the masses, initiation of projects designed to bring benefits to the majority of the people is required if this co-operation is to be forthcoming. This is the main reason why major stress has been laid on such organisational projects as land reform and local development, projects in irrigation and agricultural extension, and such educational projects as are designed to improve agricultural techniques. It is hoped that the provision of agricultural credit, the continuation of the cadastral survey, and the installation of an efficient Land Administration Organisation will prepare the conditions necessary to a successful agrarian reform. These programmes, as well as those in the field of local development and administration, it is felt, can be best carried out through the medium of the Panchayat system, and that their success will enlist the cooperation of the general public.

The programme of reforming the administrative structure has been given special emphasis in the Plan, not only because of the need for reform in the field of agriculture but also as it pertains to the structure of Government. The experience gained during the first Five Year Plan proved how difficult planning can be when the administrative structure is not effective. In the absence of adequate administrative machinery, the Plan remained by and large on paper—there being little relationship between what development activity took place and the objectives and priorities as found in the Plan itself. Reform of the governmental administrative structure, however, can not be confined simply to the centre. To be effictive, reform must embrace the entire structure down to the local units. It is for this reason that the policy of the Government to entrust the village and district level Panchayats with the responsibilities for local administration, must go hand-in hand with reform. In this way the administrative hierarchy will gain in strength and effectiveness.

The formulation of an integrated Plan and its successful implementation presupposes an understanding of the current economic structure and the natural and human resources upon which it rests. It is on the basis of such knowledge that the economic benefits of the various programmes and projects can be ascertained. In view of the present deficiency of this type of knowledge, therefore, the present preliminary Plan emphasizes the need for a better system of data collection including economic surveys. Such surveys will be of two kinds:

1) A general survey of the country's physical resources to provide guidance in determining priorities for the exploitation of these resources in the future.
2) Pre-investment surveys to make available detailed information concerning the cost and benefits arising from particular development projects.

In the past one of the main bottlenecks limiting the progress of development in the country has been extreme lack of technicians and skilled people. In order to remedy this situation high priority has been given in the Plan to training people. This training programme, it is expected, will be carried on within the country as far as intermediate and low level training is concerned, whereas those requiring higher study and advanced training will be sent abroad.

In keeping with the objective to create a sound basis for a more effective implementation of development programmes in the future, the Plan places emphasis on the need for building up economic overheads. In view of the early stage of development which Nepal presently is in, the supply of these overheads is insufficient, whereas the need for them is increasing. This need for additional overhead facilities demands, therefore, that as much resources as can be made available be used for the further development of the means of transport and communication and other basic infra-structure such as power and irrigation. In fact, economic development is hard to conceive outside a context of improved means of transport and communication, and this is all the more so given the rugged geographical conditions of Nepal.

Mention has already been made of the structural improvements required in the field of agriculture. Apart from, and in addition to, these structural changes, an agricultural output is equally imperative. Additional agricultural production is required, not only to raise presently low levels of income of most of the people, but also to find sustenance for a population which is adding 150,000 new consumers every year. Furthermore additional agricultural production of food grains and raw materials will be required as progress moves forward in the other developing sectors of industry and construction. In view of this need the Plan emphasizes the extension of advisory services, and the provision of irrigation facilities in the agricultural sector.

Although it is recognised that it is not possible at this stage to undertake industrial development on a large scale, it has been thought desirable to set up certain industries catering for basic and consumption requirements. Initially emphasis will be on the improvement of existing industries and the completion of those industrial projects which have already been started. Special emphasis has been placed on the development of cottage and small industries.

Keeping in view the limited resources of the existing administrative machinery it has been found desirable to concentrate on the improvement and consolidation of those social services which are already in existence. The desirability and need for providing additional education and health facilities in a country like Nepal are obvious but unless these services are provided in a carefully planned manner, there will not only be wastage of limited resources but the effects will adversely affect the overall Plan for economic development. Hence the need at this stage for consolidation rather than the expansion of social services, and in this way it may be possible to lay down a sound base on which the future development of social services could be built. Meanwhile, the expected increase in revenues should enable the government to devote an increasing proportion of available revenues to this field.

C ECONOMIC POLICIES

In an economically backward country such as Nepal, the primary responsibility for accelerating economic growth must be the burden of the Government. There can be no doubt that the Government is the appropriate instrument to carry through changes relating to social and economic justice, and to establish the prerequisites for economic growth. That is to say, the Government must provide the necessary guidance if the country is to attempt to enter the modern stage of accelerated development. That is not to say, of course, that the Government must directly undertake all development activities. The burden of nation-building must be shared with the private sector. In fact, the private sector has an important role to play in the process of economic development within the framework of the policies and programmes of the Government in relation to the overall economic advancement of the country.

Development activities may be divided into three categories.

a) Those undertaken by the Government directly.

b) Those undertaken by the private sector under the economic and technical assistance programme offered by the Government.

c) Those undertaken directly by the private sector.

It is not desirable from the practical point of view to attempt, on an a priori basis, to set out the limits or the frontiers of action of both the private and the public sector based simply on any particular ideology. Any such delimitation would have to be based upon the conditions which exist in the country.

However, the ultimate aim of the plan, which is to secure the advancement of the country at an accelerated pace, is clear enough. It follows, therefore, that changes in emphasis as between one sector and another should be made in accordance with this over-riding goal.

Judging by the experience of other countries, and by the nature of the particular undertaking itself, we find that there are some development activities which can better be performed in the public sector, particularly those which affect the public welfare. Changes in the organisational structure which are contemplated, such as those in land reform, Government administration, as well as the development of transportation, communication, irrigation and power facilities, undertakings which are fundamental and basic to economic growth, inevitably must be the responsibility of the State. With respect to other fields of activity, however, the Government's policy has been designed to encourage the private sector insofar as their activities are consistent with the objectives of the Plan. For this purpose, the Government will make available, where necessary, both economic and technical assistance.

No plan can be adjudged as a complete until and unless it embraces all the development works under way during the Plan period. Unfortunately, however, due to the dearth of statistical data some of the development activities in the private sector have not been included. It is hoped that as time goes on and experience is gained, and after more statistical information becomes available, it will be possible in future plans to include all of the development activities in the private sector. As for the present Plan, there was no other choice than to incorporate only those private sector activities which are undertaken in conjunction with economic and technical assistance offered by the Government.

d. Policy Relating to the Private Sector

To encourage private enterprise in the country, the Government will be engaged in three programmes in the field of local development, agriculture and industry.

(b) Local Development

Under the provisions of the Panchayat system recently adopted by the Government, the Panchayats themselves will be charged with carrying out all local development works. Since the Panchayat members will be elected from among the people, this means that the responsibility for local development will lie with the local people themselves. To give leadership in initiating development activities, to provide for the necessary equipment, and to assume the responsibility for guidance and direction once these activities are under way—these functions will lie squarely on the shoulders of the Panchayats. The Central Government will restrict itself primarily to making available technical know-how and imported equipment and to some extent will make monetary contributions where necessary. The long run aim of the Government in this respect will be to help the Panchayats toward a measure of independence in the field of development.

(b) Agriculture

In the Nepalese economy the largest sphere of private enterprise lies within the sector of agriculture. The experience of other countries has been that the Government has a substantial role to play in the development of agriculture. In this sector there are a number of activities which lie beyond the capacity of individuals, such as the question of land reform; and there are a number of other pre-repuisites such as rural credit which private commercial interests are unable to handle, and even if they attempted to do so the results probably would be detrimental to the interests of the country. Similarly, if we examine the problems associated with the introduction of improved agricultural techniques and equipment we find that in most countries it is the Government which must lead the way. But once the Government has, through these various measures, established the prerequisites for agricultural development, private enterprise must be charged with the responsibility of substantially increasing farm output. Under the second Plan, therefore, the task of the Government has been confined to the introduction of organisational reforms, the provision of irrigation facilities, and the establishment of agricultural extension services.

(c) Industry

There appears to be great promise for industrial expansion within the private sector. In this connection it may be noted that in most countries the origin and growth of industries has often been due to private initiative. In Nepal, however, the present conditions of private industries leave much to be desired. The steps taken by the Government in the past to give incentive to private investment apparently have not been fruitful in terms of productive results. The situation therefore requires an amelioration in the conditions of private industries on the one hand and on the other hand devising measures to provide more encouragement for addtional private capital.

In the meantime, the Government has approved an industrial policy designed to encourage capital investment from both local and foreign origins. Under this new policy, cottage and small scale and medium-sized industries have been reserved as a field for indigenous capital, whereas foreign investors have been invited to participate in the development of businesses which require larger initial capital outlays. Of course, key industries and defence material production centres will remain under the purview of state enterprise. Among the facilities designed to provide incentive to the private sector, mention may be made of income and other tax concessions, the provision of foreign exchange, the availability of timber and other construction materials and the repatriation of a certain portion of profit earned in foreign currency. In addition, the National Industrial Development Corporation has been established to provide technical assistance, foreign exchange and capital loans for the establishment and expansion of private industries.

2. Commercial Policy

Commercial traffic plays an important role in the process of earning foreign currency and creating conditions conducive to the growth of industries. In Nepal, where local markets are small, the eventual establishment of large-scale industries is dependent upon the possibility of export trade.

The volume of foreign trade has been increasing during recent years. Although accurate trade statistics are not available, preliminary date indicate that the total volume of export-import trade, which was at a level of Rs. 230 million in 1958-59, reached Rs. 340 million the following year and by 1960-61 attained a level of Rs. 420 million. Although both exports and imports have risen, the increase in the latter has been much larger than the rise in exports. For example, in 1958-59 imports were Rs. 160 million, rising to Rs. 220 million in 1959-60 and Rs. 290 million in 1960-61. The same preliminary data indicate, although there is reason to doubt the accuracy of the data since it is composed solely of recorded exports, that the increase in exports has been much smaller, rising from Rs. 70 million in 1958-59 to Rs. 130 million in 1960-61.

Another feature of Nepalese foreign trade is the high degree of concentration on a few commodities. For instance, more than half of imported goods consists of foodstuffs, textiles and cigarettes, and on the export side about two-thirds of Nepalese exports consists of food grains and agricultural raw materials. Another type of trade concentration which is perhaps somewhat unique to Nepal is the fact that 99% of imports are obtained from India, while at the same time about 94% of exports are sold to India The overwhelming importance of the Indian market to the trade prospects of Nepal is therefore quite evident.

In the near future it is hoped that the volume of foreign trade will expand, become more diversified, and thereby have an accelerating affect on agricultural and industrial development. The heavy concentration of trade with one single country, namely India, as mentioned above, also raises peculiar problems both with respect to potentially undesirable price fluctuations as well as restrictions on commodities necessary both for consumption and investment purposes. This fact makes manifest the need for an expansion of Nepal's trade to overseas countries.

Recently the National Trading Company, a State-owned undertaking, has been set up to distribute imported commodities in short supply. This includes goods normally imported from India, but mainly thus far has consisted of the sale of goods received by grant or on a deferred payment basis from the Soviet Union and China. As Nepal attempts to build up its reserves of foreign exchange, it is hoped that this company will assist in the promotion and diversification of exports as well as the control of the importation of consumer goods. In this latter task it will be assisted by the Government's policy of establishing a number of plants which in the future will produce domestically a number of commodities which presently must be imported.

In addition to visible trade, Nepal also earns foreign exchange from its tourist industry as well as remittances sent back to Nepal by Nepalese living abroad. In addition to the receipt of profits and interest from foreign investments, it also earns foreign exchange as a result of Gurkha pensions. On the other hand Nepal, like other countries, not only has invisible exports but invisible imports as well. Accurate data on these invisible items is even less reliable than the meagre data we have on visible trade, but it would seem that the positive balance on the invisible account off sets any possible deficit arising from the trade account.

5. Price Policy

The national price level has been rising in Nepal during the past few years. It is of course quite natural for this phenomenon to occur in a developing economy, and to a limited extent it may actually lead to an environment conducive to the expansion of productive forces. But if prices rise sharply as development begins, it will not only create hardships for people belonging to the fixed-income group, but it will also adversely affect the cost of the plan, rendering the Plan targets difficult of achievement. The success of the Plan, therefore, demands that any price advance be kept moderate and under control.

There are a number of factors which account for the recent rise in prices. First, although the overall food-grain supply available in the country is sufficient to meet national demands, still the vagaries of nature and the lack of an adequate transport system, cause prices to rise in grain-deficient areas. Secondly, since a number of basic commodities, other than food-grains, have to be imported from India, as prices rise in the developing Indian economy, costs are pushed up in Nepal. This can be seen particularly with reference to the prices of textiles, foodstuffs and other imported commodities from India in recent years. This type of price rise falls mostly of small villages, only a few varieties of foodstuffs and other consumer goods appear on the market. On the other hand, in the bigger towns where trade and specialization in production is more advanced, the impact of rising prices of consumer goods and food grains has been larger. It seems that this effect of higher prices on the urban dwellers will continue, since it is unlikely to be off-set by increases in production through investments in such fields as electricity, roads and communication media.

In advanced countries a number of measures are available to the Government, where price controls seem necessary, but these measures may be difficult of application in our backward economy. Inasmuch as the banking system is not fully developed, monetary measures have but little effect. Much in the same way, direct measures of price control may run into difficulties due to an inefficient Governmental administrative structure. Progressive taxation can to a certain extent limit spending of high income units but in Nepal at present such a tax system does not exist.

It is very difficult, however, to talk of price control when practically no reliable price data exists. What does exist does not include many consumption items, and the observations are infrequent and available only after long delay. Any price control programme must await prior improvement in the collecting and dissemination price statistics.

In the meantime, apart from ensuring proper transport facilities to carry foodstuffs to deficit areas, the Government will build up stocks of food grains in appropriate godowns throughout the nation. Already the construction of some godowns in different districts has begun. Furthermore, this Plan lays stress on certain "impact projects" whose purpose is to quickly raise farm produce. On the other hand, some projects which do not directly lead to increased productivity, and which require long periods of gestation, will be phased out during the Plan.

In the meantime, in an effort to mitigate the price rise from both local and foreign sources, domestic production of goods formerly imported will be started without delay, as can be seen from the survey activities of projects concerned with the construction of textile, cigarette, sugar and paper factories.

4. Policy Relating to Balanced Regional Development

From the long-term point of view it is not only desirable, but also imperative that in the interest of national economic growth, different regions should make contributions in proportion to the resources at the disposal of each. This Plan, therefore, has adopted the policy of balanced regional development with a view to providing opportunities for development in different areas in proportion to the available resources. According to this policy, due representation of the backward areas of the country has been provided for within the Plan. This principle has in particular been applied with regard to the local development activities falling within the scope of the Panchayats; such as social services like education and health agricultural extension programme, cottage industries, etc.

The development of a region depends largely on its potentialities. Since the different regions are not on the same level in this respect, it can not be said that the development of each district will follow the same pattern. At the same time, for want of proper surveys and reliable statistics it is not easy to state anything definite about the resources which each area has. Yet, with the exception of large-scale power, irrigation and other industrial projects, no area can be declared 'out of bounds' for development works, which will be undertaken on a modest scale. Under the circumstances, it is highly essential from the long-term point of view that the different parts of the country be given an opportunity to develop so that they may be in a position to contribute their share to national economic expansion. Balanced regional development is also essential to the proper mobilization of man-power, which is available in abundance in Nepal.

The plan has adopted two different methods to bring about equilibrium in regional development:

(a) Certain facilities have uniformly been made available through out the country. For example, to ensure appropriate facilities for local development the country has been divided into 3,474 village Panchayat and

75 district Panchayat areas, and every Panchayat has been endowed with powers and responsilities necessary for undertaking development works.

Similarly, for purposes of country-wide organisation of agricultural extension, an extension centre has been opened in each of the fourteen zones. In the field of social services every village Panchayat is to have at least a primary school within its jurisdiction, while every zone is to have a multi-purpose school and a government hospital. The target for each development district is a health centre. As far as cottage industries are concerned, since every zone has a cottage Industries Training and Extension Centre, the task that remains to be done is to provide incentive to all such centres.

(b) Apart from the programme of extending uniform facilities throughout the country, as outlined above, certain areas will be selected for pilot development projects so that the experience and knowledge derived from them might later be applied to other areas. Some of the village Panchayats will be selected for intensive development works on an experimental basis with a view to exploring the possibilities of developing the villages through the medium of Panchayats and in order to set up models for other village Panchayats to emulate. In addition, certain parts of the country with latent capacity for development will be subjected to intensive development through the implementation of multi-purpose development programmes. Similarly, in power development also, small power-generating sets will be installed in certain parts of the country where until now electricity supply has not been available. Such activities will expose the local people to the benefits of cottage and small industry development.

Thus the present Plan makes an attempt to extend certain common facilities and provide due opportunities for development all through the country. In the present situation in which, for want of necessary survey and authoritative statistics, there is a severe limitation of knowledge about the resources available in different areas, it has not been possible to draw up a detailed programme to this effect. Nevertheless, in future when such vital statistics become available, a more comprehensive attempt will be made to secure balanced regional development.

Financial Resources For The Second Plan

The cost of the Second Plan development activities in the public sector, it is estimated, will be Rs. 600 million. Of this amount, 13% will go for improvement in organization, data collection, training and publicity; 39% will be spent on the improvement of transport and communication facilities, as well as power; 14% is set aside for agricultural development; 17% will be used for development in industry; and a final 17% for the improved provision of social services. Consistent with the policy of His Majesty's Government of giving maximum encouragement to the private sector, the Government during the Plan period hopes to make available Rs. 70 million of loans — Rs. 50 million for the industrial sector and the remaining Rs. 20 million in the field of agriculture. The total size of the Plan in financial terms is therefore Rs. 670 million.

Private Sector

The Rs. 600 million of financial resources available for development in the public sector is the estimated total cost of development activity during the Plan in that sector. However, the Rs. 70 million which it is planned will be made available by way of loans to the private sector include but a small portion of the total private investment which it is estimated will be undertaken during the Plan period. Ideally, it would have been better to have tried to estimate total private investment during the second Plan period, and to have added this to the overall public investment. However, the complete dearth of statistical data on all aspects of business activity in the Nepalese economy prevented even an attempt being made in this direction. Nevertheless, the Government's policy in this respect is quite clear. As the public sector pushes forward, the private sector must not lag behind. It is felt that these loans to the private sector, both in the fields of industry and agriculture, will have something like a multiplier effect in the sense that every rupee loaned will generate at least an additional rupee increment of private industrial investment. In the same way, it is felt that the Rs 20 million which will be made available to agriculture will also have a multiplier effect. This is particularly so in the case of local development. In accordance with the policy of His Majesty's Government to de-centralize administration and foster development from below, the Panchayats have been so organized that local and village development work will be undertaken by the local people at their own initiative. Most of the costs of these development works will be financed by local contributions, the Central Government's contribution being primarily to supply certain items in short supply and which perhaps require foreign exchange.

Everything considered, the stimulus given to private investment by these loans should be substantial. Nevertheless, it has not been possible to quantify the induced contributions in either the industrials or the agricultural sector which it is hoped these loans will call forth.

Allocation of Financial Resources:

On the basis of the priorities set out in the Plan, the allocation of financial resources made to the public and private sectors is as shown in table I below :-

TABLE I:

Allocation of Financial Resources

(in lakhs of rupees)

Subject	Grants	% of Total Grant	Loans	Total	% of Total
Improvements in orgonisation, survey, statistics, publicity and training	792	13.2	100	892	13.3
Development of the means of transport and communication, and power	2,345	39.1	—	2,345	35.0
Agriculture, Irrigation and Forests	816	13.6	100	916	13.7
Industries and Tourism	1,020	17.0	500	1,520	22.7
Consolidation and partial extension of existing social services	1,027	17.0	—	1,027	15.3
Total	6,000	—	700	6,700	—

The vital importance of the Plan, however, cannot be brought out merely by a statement of the amount and allocation of the financial resources. The objective of the Plan, above all, is to make full use of all kinds of resources available in the country in such a way as to lead to the greatest degree of economic development. Co-ordination between other available resources and the financial resources is the distinctive characteristic of any well-thought-out Plan. Lack of co-ordination in this respect will, it is obvious, make the Plan targets difficult of realization. Due once again to the dearth of statistical information it is not easy to speak with certainty as to how far such co-ordination has been worked out in actual fact. In any case, a constant endeavour will be made to assemble in time and to the extent necessary, the technicians, materials, foreign exchange and other requirements of the various projects as scheduled.

We have learnt from the difficulties of 'resource' co-ordination during the first Plan period that spending capacity does not bear a direct ratio to the ambitious outlays envisaged under a plan. The disappointing achievements of the First Plan prove that availability of financial resources is no guarantee that the plan targets will be achieved. If the difficulties that hinder the operation of the Plan are not overcome in time, the fact that financial resources are available will not help. The resources will for the most part remain unused. It is out of this consideration that the Second Plan has focussed attention on the progromme of improving the administrative structure. De-centralisation of administration, amendment of civil service regulations, re-orientation of the payment procedure, formulation of special development rules—all these measures undertaken against the background of the Panchayat system, as stated in the programme relating to administration, will, it is hoped, invest the administrative machinery with a higher degree of efficiency. It is further hoped that it will also augment the spending capacity of the Government departments.

Thirty-three percent of development outlay will be disbursed through separate arrangements as laid down in the Plan, while the remaining two-thirds will be directly entrusted to the Government departments. As has been mentioned above, due thought has been given to the creation of conditions which would ensure a steady flow of money, materials and technicians. This, naturally, will also have the effect of increasing the spending capacity. In certain specific fields like industry and power, necessary formalities for the placing of orders for equipment have already been completed, which gives reasonable ground for hope that the progress achieved in these fields will exceed expectation. But, despite of all these elaborate arrangements and deliberate forethought, the proportion of expenditure in different sectors need not necessarily be even. The spending capacity of such projects as industry and power, where the resources are concentrated on limited areas, will manifestly be in excess of that of Agricultural and Panchayat development, where the resources are dispersed over a wider field.

Financial Resources for the First Five-Year Plan:

In comparison with the First Five-Year Plan the outlay for the Second Plan is a little more than double. Although the First Plan was originally projected to cost not more than Rs. 330 million, the Budgetary allocations during the Plan period grossed about Rs. 600 million. Of this amount, the actual expenditure approximated Rs. 220 million. The first year absorbed only Rs. 12.9 million, but in subsequent years, the absorptive capacity gradually increased, with the result that the expenditure incurred in the last year of the Plan amounted to Rs. 80 million. The large gap between the estimated Plan outlay and the Budgetary allocations suggests that during the First Plan period the order of priorities and appropriations under the different projects and programmes were conveniently disregarded while preparing the Budget Estimates and that the Budget itself was drawn upon an over-ambitious scale without reference to the actual capacity to spend, or, for that matter, to the Plan document itself.

According to the statement of the financial resources for the First Five-Year Plan, our increasing dependence on foreign aid becomes patently obvious. In the year 1959-60, twenty-nine percent of the Development Budget was borne by His Majesty's Government. HMG's contribution fell to thirteen percent in 1960-61. It touched a new low in the subsequent year when it stood at a mere six percent. A realistic appraisal of the Five-Year Plan reveals that it aimed at providing Rs. 95 million from internal resources. But actual expenditure shows that the amount borne by His Majesty's Government did not exceed Rs. 60 million—a short-fall of a little above 30 percent. Moreover, as this amount was a charge on the existing funds, it is doubtful whether in strict truth it could be described as the mobilization of internal resources.

The foregoing account makes it clear that progress in the field of development in past years has not been satisfactory. During the First Plan period, and even earlier than that, Government expenditure used to exceed revenue under the Regular Budget — a state of affairs which left the Government no alternative but to reduce its commitments to the Development Budget. And as the Plan outlays were not deployed on such development works as would increase the revenue of the Government, the financial difficulties continued to multiply over the years.

Table II below shows the relative position of Government revenues and expenditures in the Regular Budget for the years 1958-59 through 1962-63.

TABLE II

Revenue and Expenditure in the Regular Budget

(in lakhs of rupees)

	1957-58	1958-59	1959-60	1960-61	1961-62
Revenue	502	727	738	926	910
Expenditure	746	683	736	1083	1202
	-244	44	2	-157	-292

Under the circumstances, it was only natural that our dependence on foreign aid for development works should have increased.

When we examine the receipt of foreign aid, it may be noted that there is a slight divergence between the foreign aid included in the Budget and the total available foreign aid. The explanation lies in the fact that only such of the foreign aid amounts as are directly spent by the Government are embodied in the Budget. Technical assistance and training, etc. made available by different countries and the outlay on development programmes not directly undertaken by the Government are not included in the Budget. If account is to be taken of all these items, the total amount of foreign aid will of course be much in excess of what is shown in the Development Budget.

During the Five-Year Plan period the financial and technical assistance received from different friendly countries totalled Rs. 382.8 million. Table III on the following page gives the breakdown.

TABLE III:

Financial and Technical Assistance Received During the Five-Year Plan Period

(in millions of rupees)

Country or Organization	Amount
1. United States of America	222.4
2. Indian Union	82.1
3. Soviet Union	8.5
4. The People's Republic of China	32.1
5. The United Kingdom	3.7

6. New Zealand	2.1
7. Australia	0.8
8. Canada	1.1
9. Switzerland	2.4
10. Ford Foundation	10.7
11. The United Nations	16.9
Total:	382.8

Prior to the inauguration of the Five-Year Plan, foreign aid to the value of Rs. 25 million and Rs. 70 million respectively from the United States and India had been received. Analysed on a year-to-year basis, the absorption of the foreign aid was a little more than Rs. 25 million in the first year of the Five Year Plan, rising to Rs. 140 million in the final year.

This sort of mounting dependence on foreign aid for most of the development works is not desirable. Its continuance could threaten the success of the Plan. Our development programme has, even as it is, been deeply affected by it. For instance, most foreign aid is tied to specific projects and as such is not available for assisting other programmes which might better be undertaken. But when we consider the degree of economic development which has to be achieved, it becomes apparent that the internal resources alone are not sufficient for the implementation of the development programme. In the context of our economic situation, most of the development programmes may have to be executed through the instrumentality of foreign aid. At the same time, it goes without saying that the volume of development works will not amount too much if we rely solely on foreign aid without mobilising internal resources. This becomes even more apparent when we realise that the bulk of foreign aid is often directly related to the amount contributed from internal resources. On this showing, the stepping up internal resources assumes paramount importance if we are to receive foreign aid in gaeater quantity. The Plan, therefore, has adopted the policy of increasing the proportion of internal resources to the maximum extent possible. A sense of propriety also indicates that the local costs obligated by the use of foreign aid should be charged on internal resources. With this end in view, the Second Plan has accorded priority to such projects as are likely to add to the revenue of the Government as soon as possible. The combined effect of all these devices will be to reduce gradually our reliance on foreign aid.

Financial Resources for the Second Plan:

The estimated financial resources available for the Second Plan are shown in Table IV on the following page.

TABLE IV:

Estimated Financial Resources Available for the Second Plan

Origin	Amount of Rs. millions
1. Foreign Aid	Rs. 500
2. His Majesty's Government	100

Excess of income over expenditure	Rs. 45	
Profit accruing to state undertakings	5	
Loan	10	
Deficit	40	
3. Loan		70
External	60	
Internal	10	
Total Financial Resources:		Rs. 670 mil.

Foreign Aid

The amount of foreign aid now available to Nepal is far in excess of the Rs. 500 million mentioned above. In the Plan, however only such amounts as are to be spent within the next three years and as are strictly necessary for different projects have been included. A review of the Budget Estimates of the past few years shows that the entire amount of the aid received has never been spent within the period allotted. If we are to be guided solely by these precedents, even the estimated allocation of Rs. 500 million may appear to be over-optimistic. But in the light of the various steps taken by His Majesty's Government to increase the spending capacity and the arrangements made for more effective co-ordination, this amount of foreign aid can be expected to be utilized in a satisfactory manner.

During the Second Plan period the following amounts are estimated to be available from friendly countries and organizations aiding Nepal:

	(millions of Rupees)
1. The United States of America	210
2. Indian	140
3. The Soviet Union	80
4. The People's Republic of China	40

5. The United Kingdom	15
6. The United Nations	10
7. Others	5
Total	Rs. 500 mil.

Furthermore, of the total estimated loan of Rs. 70 million, Rs. 50 million and Rs. 10 million for industrial and agricultural loans respectively are expected to be available from foreign sources.

1. The United States of America

The U. S. Aid is of two kinds:

[a] DOLLAR AID - This aid will be made available in the form of U. S. technical experts, training of Nepalese technicians, commodities, etc.

[b] LOCAL COST AID - This aid will be given in Indian rupees to meet the necessary local costs. As the Development Budget includes only the expenses to be borne by His Majesty's Government, only the amounts of the local cost aid and dollar-commodity aid have been incorporated in the Plan. An examination of the expenditure accounts to data shows that US AID in the form of Indian rupees could be utilized only at the rate of Rs. 50 million (Nepalese Currency) approximately each year. Expansion of development programmes will naturally entail greater absorption of the aid. On this basis, therefore, U. S. aid (including dollar commodity aid) in the order of Rs. 210 million is expected to be available during the Plan period.

2. India

At present the total aid available under the Indian aid programme is Rs. 290 million approximately. Of this, only Rs. 140 million is expected to be utilized during the Plan period. This does not include Rs. 64 million, which the Chatara Irrigation Project (to be implemented solely by the Indian Government), is to cost. Also, the costs involved in the scholarships to be granted by the Indian Government under the Colombo Plan, and the cost of technicians belonging to the Indian Aid Mission, have not been included.

3 The Soviet Union

Aid worth Rs. 80 million has been received from the Soviet Union for the erection of a cigarette factory and a sugar mill, and the implementation of the Panauti Hydel Project. This aid also includes some part of the local costs involved in these projects. It is partly in the form of loans and partly grants, and to meet the local costs, cash will be made available from the sale of commodities imported from the Soviet Union. As all projects are estimated to be completed within the Plan period, the entire amount obligated under the Soviet aid programme, except that relating to the scholarships to be granted by the Soviet Government, has been included in the Plan.

4. The People's Republic of China

The amount made available by the Chinese Government is about Rs. 300 million. The greater part of this amount is tied up with such China-aided projects as: the paper mill, the cement factory, the leather works and the Kathmandu-Kodari Road. The actual work to be undertaken in connection with these projects within the Plan period, mostly consists of survey operations. So that, of the aid amount, only some of Rs. 40 million is expected to be spent. As in other cases, Chinese aid expenditure on scholarships and fellowships is not included.

dropped

8. Other Aid

Apart from these major contributors, financial and technical aid is expected to be made available from other friendly sources such as Great Britain, Australia, New Zealand and Canada, the UNO and its specialised agencies, and the Ford Foundation. Mention may in particular be made of the technical aid in the form of technicians and training from the U.N. and its different agencies.

It follows that if the technical and financial aid to be received in different forms from friendly countries and organisations is to be of maximum benefit to development programmes, it should be efficiently utilised. A situation like ours, where more than 80% of the Plan outlay has to be met from foreign aid, demands careful utilisation of the foreign aid. For this purpose the following points deserve due consideration.

First, foreign aid received from different sources should be co-ordinated in itself and with the programme initiated by His Majesty's Government. Lack of coordination not only leads to administrative bottlenecks, but may also cause wastage of the limited resources. To avoid such a situation His Majesty's Government has adopted the policy of not using aid received from different sources in any single field of activity. It is also highly essential that the financial and technical aid available in different forms should be properly harmonised. Insofar as aid in the form of technicians, training and commodities is concerned, there is no need for any elaborate argument to prove that they must be in conformity with the development programme as laid down in the Plan. In addition, there undoubtedly exists a strong case for the need of increasing internal resources. Yet, with the present economic situation as it is, there appears to be a need for organising the foreign aid programmes in such a way that the amount to be borne by His Majesty's Government may be effectively utilised. This has been shown by the fact that, due to the inability of His Majesty's Government to meet local costs, some of the projects could not be implemented according to schedule.

External Loans

Out of the total financial resources of Rs. 670 million, approximately Rs. 60 million will be in the form of loans from foreign countries such as the United States, U. S. S. R., United Kingdom and Germany. The remaining Rs. 10 million of loans will be raised from internal sources. Of the foreign loans, some finance will be made available directly to specific projects (i.e. as in the case of Great Britain and Russia). A fairly large proportion; however, of the foreign loans will be chanalised into development projects through two credit institutions of His Majesty's Government, namely the Agricultural Bank (using U.S.A. provided funds) and the Nepal Industrial Development Corporation - N.I.D.C. (using U.S.A. and German funds). It is furthermore hoped that additional foreign loans may be procured during the Plan period.

Inetrnal Resources

The gap between the total outlay of the Plan and the amount of 'absorbable' foreign aid is Rs. 100 million in "grant" expenditures and Rs. 20 million in loans. Internal resources will, therefore, have to be tapped for this amount, which is about 16 percent of the total outlay. The stringency of the present circumstances, may make it difficult to raise even this modest amount. But the need of reducing our dependence on foreign aid, and of being in a position to draw up development programmes under the Plan which are attuned to the urgent needs of the country, demands a more vigorous campaign to harness internal resources. Paradoxical though it may sound, our ability to muster additional internal resources will place us in a better position to negotiate for more foreign aid.

a. Government Sources

Normally, the Government's contribution to economic development comes from Government savings, which is the excess of annual revenues over expenditures as listed in the Regular, or Ordinary, Budget. Unfortunately, however, the Regular Budgets during the past few years have normally been in deficit, with little or no Government savings available for development. These deficits resulted in a drawing-down of monetary reserves, or Governmental borrowing from the Central Bank. These practices are at best palliative. The fiscal policy for the duration of the Plan period will therefore be to increase Government revenues as much as is consistent with the present economic conditions of the country.

A comparison of the ratio of taxes to national income between Nepal and other underdeveloped countries indicates that the tax burden in Nepal is extremely low, and despite this fact that accurate statistics are not yet available. Chief among the taxes which are collected in Nepal are the Land Tax and Customs duties. The predominantly agricultural nature of the Nepalese economy accords prime importance to the Land Tax. Compared to it, the rate and incidence of Income and Property Taxes are very low. Enhancement of the rate and expansion of the area of application of these latter taxes, must await improvement in the efficiency of tax enforcement and collection. The latter, of course, is desirable not only from the standpoint of social justice, but also from the more practical aspect of increasing Government savings. Furthermore, as development occurs and economic activity increases we may expect an automatic increase in Customs duties. These prospective increases in revenue are urgently required, not only to raise Government savings but also to enable the Government to continue to provide facilities in the fields of power, irrigation, roads and other social services—fields where incremental revenues fail to cover all the costs of providing these facilities.

Another potential source of Government revenue is the profits accruing to State enterprises. Up to the present time, however, these profits have been negligible, due to the inefficient operation of these enterprises and certain deficiencies in their organization and management. If the Government is to convert the present losses of these enterprises into profits they must first be converted into autonomous bodies and placed under management guided by commercial principles. Another important Government activities which may add future profits is the sale of forest products. However, if we exploit this source too quickly and without first conducting proper surveys, there is every possibility that this policy would land us into severe difficulties in the long run. After considering all of the above aspects it is estimated that additional revenue from State enterprises and forest sales should amount during the Plan period to an estimated Rs. 5 million.

Another way for government to increase available financial resources for development purposes would be to reduce and keep under firm control regular Government expenditure. If this is not done and expenditures are allowed to keep abreast of rising revenues, obviously no Government saving results. This unfortunately has been the experience of the past few years as social services were rapidly expanding. Much as a change is needed with respect to this problem, it appears that in the immediate future little can be done, since many of the programmes of social services initiated during the First Plan period will have to be completed. Nevertheless, if the Government carries out a policy of increasing revenues through reasonable taxation, improving the management and organisation of state enterprises and emphasizing the need for frugality in Government expenditures, some contribution on the part of His Majesty's Government to the Development Budget can be expected. Tentatively, the estimate for H.M.G.'s contribution has been set at Rs. 50 million.

b. Private Sources

Utilization of private savings also has an invaluable part to play. Till now, the Government has made no attempt of any sort to float internal loans. Execution of development works steps up productivity and incomes. It also increases the level of savings in the private sector. Once private savings are raised it will be possible for the government to tap these savings through a deliberate programme of internal loans. The savings thus obtained can then be utilized to accelerate the pace of economic development.

Nevertheless, the lack of a well-developed organizational structure forbids for the time being the utilization of personal savings on a large scale. In the first place our per capita income is very low and, in the second place, it takes time to establish a properly functioning capital market. For this reason, the aim is to establish a system for the partial utilization of personal savings. It is not expected that any great amount of capital will accrue from it. On the contrary, there are certain institutions in the country which have deposits lying unused, such as the Nepal Bank and the Government Employees' Provident Fund. Again, there are certain institutions, the Nepal Bank in particular, which invest their deposits in foreign bonds, simply because the scope of domestic investment is very narrow. But if the deposits of these institutions are to be mobilised, a different organizational structure is needed. For example, in the Nepal Bank certain sums are available as current deposit in addition to the profit balance. This amount varies with the volume of trans-action and approaches Rs. 10 million in the slack season. Mostly, it is only available for three or four months in a year. At other times, it simply lies idle in the vaults of the bank. This means that it can be used for only short-term loans. The same is the case with the Government Employees' Provident Fund. Currently, it has a deposit of two to two-and-a-half million rupees, but it is expected to increase at the rate of Rs. 1.2 million every year. Until now this amount too has for the most part remained unused. From all these sources it is estimated that within the Plan period, loans of Rs. 20 million can be raised.

5. Deficit Financing

If all the measures indicated above are implemented, there will still remain a gap of some Rs 40 million. While every possible effort will be made to cover this deficit by the measures which have been outlined above, should this prove impossible it may be necessary in the last resort to issue additional currency but if this is done, it will be necessary to ensure that there will be no undesirable effects on the national economy. Usually the first effect of deficit financing is to raise internal prices. But if increased production can be made to coincide with additional issues of currency the tendency of prices to rise may be limited. Deficit financing should therefore be linked with the production programme.

It should be noted however that in recent times currency has not been used in many parts of the country. Hence to the extent that the increased money supply is seeped off into the hitherto "non monetary" areas of the country, the pressure on prices may be decreased. Moreover where additional money issues can be matched by increased imports such increases may be non-inflationary. For example if currency is increased to meet the sale of commodities which have been imported from the Soviet Union and the People's Republic of China, prices may not rise. The same reasoning could be applied where local currency is expanded as part of the Indian currency portion of the American Aid programme. While, therefore there are occasions when deficit financing may be used in some measure to finance a programme of economic planning, it is highly desirable that such methods should be used with reserve and with extreme caution.

d. Foreign Currency

The foreign currency position of Nepal is satisfactory at the present time. The increasing volume of import, which is almost inevitable in a developing economy, has for various reasons created no hardship in connection with foreign currency since part of foreign aid is in the form of foreign currency or commodities. In addition, Nepal has a credit each year on foreign remittances which helps to finance the increasing import demand as the pace of development quickens.

The foreign exchange Budget of 1961-62 showed the income at Rs. 40 million, as against an expenditure of Rs.24·4 million. On the income side, special mention should be made of invisible exports (Gurkha remmittances) which netted Rs. 20 million. On the expenditure side the largest single item was an outlay of Rs. 11·5 million on industrial and other development commodities. Notwithstanding the above expenditures, during fiscal year 1961-62 there was a surplus on the Foreign Exchange Budget of almost Rs. 15 million.

On this showing, the total requirement of foreign exchange for the implementation of the different development programmes under the Second Plan, which amounts to Rs. 65 million, need not present any difficulty. If the annual foreign exchange requirements for other purposes, amounting to about Rs. 15 million, are followed for, the total annual requirements of foreign exchange will approximate Rs. 35 million, just slightly higher than estimated earnings of foreign exchange. If existing reserves of foreign exchange are also included, no foreign exchange difficulty is expected to arise in the course of the implementation of the Plan.

APPENDIX I

Allocation of Financial Resources in the Second Plan

Subject		Grants	Loans
		(in lakhs of rupees)	
1. Improvement in Organisations, Surveys, Statistics, Publicity and Training		792	
(a) Land Reform (Administration)	25		
Cadastral Survey	100		
Agricultural Credit	30		100
(b) Improvement in Administrative Structure	50		
(c) Panchayat	200		
(d) Survey and Statistics	230		
(e) Training	125		
(f) Publicity	32		
2. Transport, Communication and Power		2,345	
(a) Roads	1,125.		
(b) Aviation	250		
(c) Posts and Telegraphs	60		
(d) Power	910		
3. Agriculture, Irrigation and Forestry		816	
(a) Irrigation	400		
(b) Agriculture (including minor irrigation works)	282		
(c) Resettlement			100
(d) Forests	134		

4. Industries and Tourism		1,020	500
(a) Industry	900		
(b) Cottage Industries	100		
(c) Tourism	20		
5. Social Services		1,027	
(a) Education	400		
(b) Health	370		
(c) Drinking Water Supply	240		
(d) Sports and Recreations	17		
TOTAL		6,000	700

Progress Of The First Five-Year Plan

The modern age began to have its impact on the economy of Nepal only at the beginning of the Twentieth Century. Before this there had been no development of the economic 'overheads' such as roads and power. The first modern drinking-water supply system was installed in the Kathmandu Valley around the year 1900, at the same time as some modern schools were established in the Valley and elsewhere. The erection of Tri-Chandra College did not come until 1918. And it was only in 1911 that the first hydel-project was implemented in Kathmandu. About this time, modern drinking water facilities were provided in Pokhara, Dhankuta and some parts of the Tarai, and belated attention was given to making health services available to the Kathmandu Valley. This was followed by the abolition of slavery in the year 1926.

Comparatively speaking, the works undertaken in the field of economic development in the years immediately following 1934 are of more lasting importance. It was during this period that modern science first made its impression on Nepal. In the wake of the great earthquake of 1934, stress was laid on aid and rehabilitation programmes affecting the homeless people of Kathmandu and other areas. Work on the development of agriculture and irrigation was undertaken through seed distribution, improvement of rural industries, repair of canals and construction of dams. Attention was also given to bee-keeping, livestock improvement and cotton cultivation. To improve the power supply in the Valley, the capacity of the existing hydel project was increased. The first banking concern of the country the Nepal Bank Limited, was set up and in its initial year seven branches were opened in the Tarai. Government subscription to the share capital of the Bank was far in excess of private investment. At the same time, to encourage commerce and industry, the Nepal Trading Company was established with a Government subvention. The Department of Industries, however, was not brought into being until 1947. The development of health and education services also received specific attention, along with improvements in the postal services, telephone connections and railway facilities, the latter chiefly in the East Tarai. And various programmes also were initiated to popularize cottage industries.

But, by and large, the most important achievement of this period was the establishment of modern factories. The outbreak of World War II spotlighted the desirability of having indigenous industries. A Match factory and a jute mill were set up in Biratnagar in 1934 and 1937 resptctively. The Morang Electricity Supply Company and the Bobbin and Plywood Factory followed in 1940 and 1944 respectively. An additional jute mill, a sugar mill in Biratnagar and a match factory in Birganj were established only after the World War. Many more companies were registered within this period, but only a few of them actually started production. A greater number of them were still-born and those which had already started business had to close down soon afterwards, due to grievous miscalculations regarding available supplies of capital and labour, and their market positions in the murky atmosphere of the World War. Also a lack of adequate technical and managerial competence was evident. The industries that managed to survive the 'epidemic, were those mentioned above.

From the foregoing account, it can easily be seen how backward Nepal is in the field of economic development as compared with other countries of the world. Owing to the scarcity of factual information, the degree of backwardness cannot be authoritatively set forth, but the following facts and figures relating to certain spheres of activity may help give some idea: total irrigated area 62,000 acres; milease of roads 390 (of which 163 miles are macadam); number of airfields, 5 (of which only one is all-weather); number of post offices 107; kilo-watts of power 7,700; hospitals, 23; dispensaries, 24; primary schools, 1,165; secondary and high schools, 385. Such was the position on the eve of the inauguration of the First Five Year Plan.

During the first few years following the Revolution of 1950-51, no significant advance in the economic field appears to have been made. It was only in 1955 that a Planning Commission was formed with a view to exploiting as much as possible the resources of the country in a planned manner. The Commission drafted the First

Five Year Plan, which came into effect in 1956-57 covering the period up to 1960-61. This Plan was riddled with many defects. It suffered from omission of numerous features normally associated with a plan. Perhaps it was inevitable in the situation prevailing in the country in those days. There had been no record surveys of any of our different physical resources. Statistical data pertaining to various aspects of the economy were in acute shortage. Moreover, planning was a novel thing. Under the circumstances, the very fact that a plan document was produced at all, was a highly commendable thing. In this Plan, for the first time, develodment programmes to be undertaken in the different economic spheres, were presented in a systematic manner. This incalculated the habit of looking at the various problems facing the country from a national standpoint. It taught the invaluable lesson that individual development works should be keyed to a definite overall plan. It played a role in making the people conscious and in instilling into administrators the need of approaching the different problems in a coordinated manner. These are no mean achievements for Nepal, if only partially accomplished.

The First Five-Year Plan assigned top priority to the development of the means of transport and communication out of consideration for the geographical needs of the country. Next in order of priority was agriculture, social services and other development programmes. Similarly, development of the rural areas on the basis of community development projects, increase of productivity through improved tachniques, implementation of power, irrigation and road projects on a priority basis, provision for training and dissemination of education—programmes-like these were given more attention in the Plan. It also gave attention to the introduction of necessary changes in the administrative and agrarian systems.

However, in the atmosphere of political unrest, which was the chronic feature of the country for the ten-year period following the Revolution of 1950-51, the Plan did not enjoy smooth sailing. The various political parties though it their first duty to tamper with the nature and content of the development programmes chalked out in the Plan, as soon as they had been invested with the mantle of authority. And the scope of the Plan often was arbitrarily changed. Yet. since most of the programmes envisaged in the Plan were not clearly defined, it cannot be claimed with certainty that these changes were a wide of the Plan objectives and programmes. In any event, there were a number of projects undertaken during those five years, which could not be met out of the resources of the Plan and which, in point of fact, were beyond the capacity of the limited resources at the disposal of the country. These facts should be borne in mind while evaluating the progress of the First Five-Year Plan.

A summary statement of the main achievements of the five years of the Plan period is as follows: 6,800 villages, or 22.5 per cent of the population, reaped benefits from the Village Development Programmes. In aid of this programme Agricultural Centres were opened at various places. The Ropeway with its head-works at Hetaura, designed for easy transport of goods to Kathmandu, was brought close to its concluding stages and the countrywide wireless hook-up was in an advanced stage of completion. Valuable progress was made in the expansion of education and health facilities. Cottage Industries Development Centres were set up in various parts of the country. And the 'spade work' was done for the establishment of industries in order to reduce the country's imports.

Table V below furnishes a rough estimate of achievements in different fields:

TABLE V

	Unit	Plan Target	Achievement
Village Development Centres	Number	48	55
Food-grain Development Centres	"	18	10
Livestock Development Centres	"	7	4
Milk Development Centres	"	-	5
Cottage Industries Centres	"	-	21
Industrial Estates	"	-	3
Irrigation	Acres	275,000	65,200
Power	K-Wts.	20,000	750
Roads	Miles	900	564
Ropeway (25 tons per hour)	"	28	70 % completed
Airfields	Number		7
Post Offices	"	100	292
Telephones	Units	1,500	700
Primary Schools	Number	630	2,000
Secondary and High Schools	"	136	165

Colleges	"		15
Universities	"	1	1
Additional hospital beds	"	423	148
Health Centres	"	54	94
Ayurvedic Dispensaries	"	43	57
Co-operative Societies	"	-	378

These programmes mentioned above accounted for Rs. 210.5 million spread over five years. The expenditure was incurred under the Development Budgets, which included recurrent expenses also. Hence it cannot be claimed that the entire sum was invested in development programmes.

Table VI below gives the actual expenditure incurred in different fields and the estimated expenditure as shown in the Plan for purposes of comparison:—

TABLE VI

(in lakhs of rupees)

	Expenditure		% of Plan Estimate	Actual Expenditure as a % of Estimate
	Plan Estimate (1)	Actual (2)		
Village Development	4,25	2,67	12.44	62.53
Agriculture & Forests	3,20	69	3.24	21.69
Transport & Communication	12,40	9,49	44.22	76.37
Power	3,00	1,23	6.22	44.49
Industries, Tourism and Mines	2,50	1,04	4.83	41.42
Health	2,50	1,60	7.46	64.00
Education	1,90	2,12	9.93	112.00
Irrigation & Drinking Water	2,00	1,31	6.12	65.61
Miscellaneous	1,25	1,17	5.49	94.10
	33,00	21,45	100.00	65.00

The Table shows that the biggest expenditure was incurred in transport and communication, which is justified by the peculiar geographical features of the country. Expenditures were high in this field, partly due to the fact that some of the work was one under contract by American firms, namely the Ropeway and Telecommunications projects. Next to transport and communication comes agriculture, followed by irrigation and village development. All this appears to be according to the priorities laid down in the Plan.

Foreign aid occupies a place of eminence in the financial resources for the Five-Year Plan. A study of the Development Budgets leads to the conclusion that our dependence on foreign aid has been increasing year by year. Whereas in the year 1959-60 29% of the Budget was borne out of internal resources, this was reduced to 12% in 1960-61, touching a new low of 6% in 1962-63. Under the circumstances, a full understanding of the nature, dimensions and purposes of foreign aid is vital to planning.

Nepal during the First Plan period received foreign aid both in the form of financial and technical assistance, chiefly from the United States and India. Aid received from these countries is used in various development programmes under the Plan. More than seventy-nine percent of the foreign aid utilised can be credited to these two countries. Prominent among other aiding countries are the People's Republic of China, the Soviet Union, Great Britain, Australia, Switzerland, New Zealand and Canada. Nepal is in receipt of aid from the U.N. and its specialized agencies, and the Ford Foundation as well.

The role played by foreign aid as the major source of finance used for development, and the annually increasing dependence on foreign aid, have induced His Majesty's Government from time to time to seek out ways and means to tap internal resources. Imposition of certain taxes in the past few years has led to some increase in Government revenues. Although at present, owing to lack of administrative experience and training, the yield from these taxes is not much, it may be expected to play an increasingly important part as a means of harnessing internal resources.

The importance of the abolition of the Birta (tax exempt) system of land holding can hardly be over-emphasized, both as a ready means of raising revenues and as a death-blow to an antiquated aspect of feudalism. There is no doubt that to a certain extent this step has proved successful in removing some social inequalities. Another important agrarian measure is the promulgation of the Land (Reform) Act of 1956, a follow-up to the Royal Proclamation of 1955. This Act guarantees the tenancy rights and determines the 'crop-rental' payable to the landowner and the rate of interest chargeable on loans. Furthermore, the Act in explicit terms declares illegal feudal arrangements such as forced labour and forced levies.

Mention may also be made of the changes introduced in the administrative structure with a view to ensuring smoother conduct of development work. An efficient and incorruptible administrative organisation is a sine qua non of effective implementation of any development programme. To meet this requirement Government employees were reorganized, different service cadres formed, service rules amended, and so on.

Agriculture, Irrigation and Forestry

In the realm of agriculture, ten agricultural farms, four nurseries, one soil testing centre, ten plant protection centres have been opened in various parts of the country. They will make experiments and conduct research on farm techniques, fertilizers and manures, seeds, and insecticides, and carry out field demonstrations to enlighten the peasants. With the same end in view; 4 Livestock Improvement Centres, 12 Dairy Farms and 7 Fisheries Development Centres have been set up, in addition to an Agricultural School to train the peasantry. To make available loans to the farmers and the rural people at a reasonable rate of interest and to kindle among a sense of participation, 378 co-operative societies have been established, whose subscribed capital has reached Rs. 363 thousand. Loans extended to such societies have amounted to Rs. 1.5 million, of which Rs. 188 thousand have been repaid.

Irrigation is regarded as one of the effective methods of developing agriculture. Within the Five-Year Plan period, construction of Tika Bhairab, Mahadev Khola and Bagmati Irrigation Projects in Khatmandu; Phewa and Bijaypur Projects in Pokhara; and Jhanj, Sirsia-Dudhaura and Tilawe Projects in Bara Parsa districts was completed. Other irrigation projects were also brought to various stages of completion, most of which have been carried over to the current Three-Year Plan. Before the inception of the First-Five Year Plan the total irrigated area was 62,000 acres, but as a result of the projects completed or in process of completion within the Plan period, 65 thousand additional acres were brought under irrigation.

The development of agriculture was also assisted by the sucessful demonstrations carried out in connection with the method of digging 'compost pits' to prepare fertilisers and promote the use of 'green' manure. Moreover, 54,5 thousand pounds of selected seeds were distributed among the farmers in addition to impregnated eggs and chicks.

In the interest of forest development, three demarcation fire lines and forest roads totalling 80 mile were constructed. In addition, 28 buildings to house forestry offices and provide living quarters for forest officials were constructed. Nurseries covering a total acreage of 20 miles were established; as forestation was carried out on 152 acres of land, 1,800 saplings were distributed and 2 sq. miles were singled out for experimental studies. In addition, 79 persons were trained in the Forester's Course and 23 in the Ranger's Course.

To counter the possibility of the farmers falling prey to unscrupulous pettifoggers in connection with the litigation arising out of the question of the ownership of land—a situation aggravated by the lack of rigid delimitation of land rights—the First Five-Year Plan contained a programme of preparing a land record. A Cadastral Survey was conducted to collect complete agrarian data. Within the Plan period survey maps of 13 districts including Bhaktapur, Lalitpur, Kirtipur, Makwanpur, Morang, Jhapa and Pokhara, divided into 5 zones, were prepared. This operation, covering an area of 1.1 million acres, gave employment to about a thousand persons, including 548 trained personnel.

Village Development:

The Village Development programme was initiated in 1953 to foster the feeling of self-reliance among the villagers and make them self-supporting economically and progressive in outlook. Between 1953 and 1955, Development Blocks came into operation in 7 places. Within the Firt Plan period also, Villace Development was divided into four categories and a total of 55 Centres were set up all over the country.

Nucleus Centres	6
Village Development Centres	12
Suburban Development Centres	34
Valley Multri-purpose Development Centres	3

These Centres served the needs of 38 thousand villages of 2.2 million people, through free demonstrations, aid programmes and loan arrangements. Table VII on the following page gives in detail the nature of services rendered by them:-

TABLE VII

Area of farm-lands receiving productivity aids (in ropanies) :	776,400
Veterinary Services including castration & vaccination (in heads of cattle) :	363,000
Construction of canals and conduits (in miles):	670
Sinking of tube-wells	1,870
Digging of wells	2,960

Number of persons receiving health treatment and prophylaxis :	776,000
Associated Schools, Libraries, Reform Committees and organisations :	13,700
Miles of Fair-weather Roads	1,460
Number of Bridges and Culverts	870
Number of Dams	210
Number of Persons Trained	860

Rapti Doon Rehabilitation

Rapti Doon in the Chitwan Makwanpur district, with an area of 600 sq. miles, had a cultivated area of only 25,000 bighas and a settlement of about 25 thousand people before the inception of the First Five-Year Plan. The resultant land-man ratio of 1.1 was the result of transport difficulties, the scourge of malaria, and scarcity of water. But if more people could be attracted to settle there, 50,000 bighas of cultivable waste land would be brought under the plough with proportional increment of farm produce. This consideration was the motive-force behind the Rapti Doon Multi-purpose Development Project. Under this scheme more than five thousand families were rehabilitated and 19,000 bighas of land cultivated within the First Plan period, increasing the foodgrain production by more than 300 thousand maunds. Apart from this, a malaria eradication campaign was launched, and schools, hospitals, dispensaries, credit co-operatives and multi-purpose institutes were established, and 50 miles of macadam road between Hetauda and Narayan Garh were constructed.

Transport and Communicatoin

Before the start of the First Plan there were only abotu a hundred miles of road in Kathmandu Valley, Other roads were Bhimfedi-Amlekhganj, Birganj-Dharan, Birganj-Kalaiya, and Janakpur-Jaleswar. The grand total including the Valley was 390 miles of road. Other transport facilities were the NGR railway plying between Amlekhganj and Raxaul (29 miles), the NJJR running between Janakpur and Jayanagar (17 miles), and the ropeway between Dhursing and Mata-Tirtha with a 4 to 5-ten load capacity (16 miles). Nepal entered the 'air age' in 1951 with the construction of an all-weather airfield at Gaucher (Kathmandu), and seasonal airstrips in Biratnagar, Simra, Bhairahawa and Pokhara. The operation of the air service was in the hands of the Indian Air Corporation.

Given this prevailing paucity of the means of transport and communication, the First Five-Year Plan was left with no choice but to aim at developing communication facilities on a high priority basis. It allocated 31.8 percent of the tatal Plan outlay to this programme. The target was to build 300 miles of top roads. For this purpose a tri-partite agreement was signed between His Majesty's Government and the governments of the United States and India, which gave birth to the Regional Transport Organisation in 1958. Furthermore, apart from improving existing air-fields, some new air-strips were constructed. A new 28-mile long Ropeway was started between Kathmandu and Hetauda with a capacity of 25 tons per hour in order to meet the needs of East No. 1 and No. 2 districts as well.

According to these Plan objectives, 24 miles of road between Amlekhganj and Raxaul, 50 miles between Narayan Garh and Hetauda and 40 miles in the Kathmandu Valley were macadamised. The 39-mile road to Trisuli and the Kanti Rajpath (highway) extending 50 miles, constructed within the Plan period, were made 'fair-weather' roads. In addition, much progress was made in the construction of Sanauli-Pokhara, Kathmandu-Sindhuli-Janakpur and other roads. Thus a total of 564 miles of roads were either constructed or improved within the Plan period. The installation of the Hetauda-Kathmandu Ropeway completed. Airstrips were constructed in Rajbiraj, Janakpur, Bharatpur, Dang, Nepalganj, Dhangadhi and Palung Tar, apart from increasing the amenities available in some of the existing airports. The Royal Nepal Airlines Corporation was organized to run the internal and external air services. Two locomotives and several carriages were added to the existing rolling stock of the NJJR. In addition, the Bijulpura branch line, which had been out of operation for some years, was re-opened traffic during fair weather.

Industrial Development Project

A dearth of communication facilities, a lack of technician, restricted markets and primitive sales organisations — all these factors combined to slow down the industrial development programmes laid down in the Plan.

Power is commonly regarded as one of the important pre-requisites for industrial development. According to tentative estimates, the fast-flowing rivers and roaring cataracts of Nepal have power potential of 6 million Kilo-watt. But its full exploitation requires an army of technicians and an arsenal of scientific equipment. And it is precisely these things things that Nepal stands in dire need of. The First Five-Year Plan, therefore, concentrated on thermal plants, which would add only 750 k.w. to the existing supply position. It also prepared the ground for the generation of 13.3 thousand k.w. of hydro-electricity and 4.6 thousand k.w. of diesel electricity.

Nepal is a predominantly agricultural country, and from ages past the chief occupation of the Nepalese has been agriculture, to the almost total exclusion of industry. And there appears to be no short-cut to industrialisation. The first steps in this direction were taken some twenty-five years ago. Consequently, our industrial organisation is in a primitive stage. The bulk of the industries which we have are in the private sector and almost none of them has been able to consistently earn profits. Objective analysis of these facts led His Majesty's Government to the decision to erect some industries in the public sector. Accordingly, it was decided to establish a sugar mill, a cigarette factory, a cement factory and a paper mill, of which, detailed surveys of the first two and preliminary surveys of the remainder have recently been completed. In addition, a Timber Corporation has been established to undertake lumbering operations.

The Nepal Industrial Development Corporation (NIDC) was set up in 1960 to extend financial and technical assistance to private enterprise as part of the programme of giving incentive to private sector. In the year 1961-62, the Corporation undertook the Investment of Rs.779 thousand and extended loans amouting to Rs.454 thousand.

An Industrial Estate is to be set up in Patan to develop cottage industries. A total of 20 centres has been opened in the various districts under the cottage industries development programme. These Centres have given training to 1,425 individuals, and last year they earned Rs.260 thousand out of the sale proceeds of their manufactured articles. Other branches of the Cottage Industries Development Centres might also have earned profits, but they are not included here because of a lack of information. Similarly, the first batch of 90 inmates of the Central Jail, trained under the cottage industries programme, produced goods worth Rs.11 thousand last year. It is estimated that during the current year it will mount to Rs. 100 thousand. The orphanage Centre trained 135 boys and girls and produced textile and hosiery goods, carpets and rugs worth Rs, 25·5 thousand last year, which is expected to rise to Rs. 100 thousand this year.

Development of Mineral Resources

On account of lack of essential pre- requisites, such as power and communication facilities, even known mineral deposits could not be exploited in the past. In this preliminary stage emphasis was laid on prospecting for mines, and deposits of iron, copper, gold, lead, yellow ochre, talc, slate, mica, limestone, zinc, nickel, graphite gypsum, beryl, Rock-salt and petroleum.

Tourism

Founded in 1960, the Department of Tourism secured membership to the International Union of Tourist Organisations (IUOTO) in 1961. Training was undertaken in the field of hotel management. Guide training Courses were conducted to prepare a cadre of trained uides. The number of tourists visiting Kathmandu has been on the increase every year. For example, while in 1960, 4017 tourists visited Nepal, the number rose to 3,104 by June 1961, accounting for an estimated invisible export of Rs.500 thousand in foreign exchange.

Health Services

Thirty-three was the grand total of all the hospitals in existence throughout the length and breadth of the Kingdom prior to the inception of the First Five-Year Plan. The hospital beds were 649 in number, more than half of which were concentrated in the capital city, Kathmandu. There were, in addition, seventy-two dispensaries, forty-three Ayurvedic Institutions and fifteen health institutes of different varieties. These facilities obviously were insufficient to meet the country's need for health services at even the lowest level.

Within the First Plan period a Government hospital was founded and 148 hospital beds were added. The existing dispensaries were converted into health centres to bring the total of such centres to 94. In Kathmandu a building to house the Chest Clinic was constructed and grants-in-aid were extended for the establishment of one Chest Clinic each in Biratnagar and Dhankuta. Fifty-seven new Ayurvedic Institutions were established in addition to three Homoeopathy Halls. In the field of Malaria Eradication, insecticide was sprayed and anti-malaria drugs distributed among two million people. Under the local health programme, health units were attached to sixteen blocks of village development to make available to the general public a prophylatic service. Sixty-five health assistants and twenty-three nurses were trained.

Other activities deserving notice are: the inauguration of the Indra Rajya Luxmi Maternity Hospital, the construction of the 50-bed hospital building at Maharajganj (Kathmandu), and distribution of medical chests in the various districts, numbering 4,000.

Drinking Water Provisions

Till the beginning of the First Five-Year Plan, nothing note-worthy was done about the development of drinking water facilities. The first Plan carried out various drinking water development projects in areas of scarcity like Kathmandu, Bhaktapur, Amlekhganj, Panauti, Dhulikhel, Pokhara, Doti, and so on. Under this scheme 456 hand pumps were installed in the Valley of Kathmandu and the Tarai region, which increased the existing supply by 1.8 million gallons a day, bringing relief to 500 thousand persons. In addition, the Pokhara Bazaar (market-place) Water Project, and similar schemes in Biratnagar, Bhaktapur, Lalitpur and other places, were started. Of the deep-drilling operations conducted in various places, the most spectacular results were at Maharajganj (Kathmandu) and Thimi near Bhaktapur, where the tube-wells maintained a steady flow of 300 gallons per minute.

Propagation of Education

The position of school master seems to have been established only since the Revolution of 1950-51. Till 1956, that is on the eve of the launching of the First Five-Year plan, the Kingdom had 1,165 primary schools, 390 middle schools, 85 high schools, and 13 colleges. The facilities available for adult education were almost negligible. Vocational education was not available at any level.

The Five-Year Plan put special stress on education, resulting in the establishment of 2,000 primary schools, 100 middle schools, 65 high schools, 15 colleges, 1 multipurpose institute, 1,800 adult education centres and 1 university. Moreover, 34 Normal Schools and one College of Education were founded to make available trained tutorial staff to the primary and middle schools. Within the Plan period the Normal Schools imparted training to more than 2,400 teachers, and the College of Education produced 48 B. Ed.s and offered training to 150 persons. To make available text books and education materials to the teaching institutes all over the country, an Education Material (Production and Distribution) Centre was set up. Mention may also be made of the programmes aimed at raising the standard of the colleges, and the founding of the Central Library and the Central Hostel, undertaken within the Plan period. Thus by the end of the First Five-Year Plan. 150 thousand students had the opportunity to study in 3,165 primary schools, 55 thousand students 465 middle schools, and 46 thousand adults in the multi-purpose institute and 1800 Adult Education Centres.

Publicity, Broadcasting and Collection of Statistics

Gorkhapatra, the sole organ of the Government, published three times a week, was changed into a daily paper. Publicity and Information Centres, existing in five districts, namely, Biratnagar, Birganj, Bhairahawa, Nepalganj and Pokhara, were also added in Dhankuta, Palpa and Jaleswar to bring the total of such Centres to eight. Steps were also taken to raise the standard of Radio Nepal, Collection of population figures, agricultural data general statistics were undertaken. A country-wide population census was completed within the plan period, and the attempt to collect more complete data on imports and exports, national production, financial resources, man-power, physical resources communication education, health, trade, and commerce, industries, employment and agriculture was also continued.

Training

To create a pool of trained personnel, so necessary for the implementation of development projects arrangements have now been made for imparting intermediate and low-grade training within the country. Before and within the Five-Year Plan period, 9 permanent technical training institutes were established. At the same time, different Government departments also undertook training programmes. Under these various schemes, 172 persons were trained in forestry, 291 in agriculture, 1,123 in village development, 88 in health, 30 in engineering, 90 in domestic science, 2,486 in education, 548 in survey, 1425 in cottage industries, 168 in census operations — thus bringing a total of 6,351.

To date 2,163 have been sent abroad for higher education, and advanced training under the Colombo Plan and the U. S. Participant Programme, and on scholarships made available by various friendly countries, as well as by His Majesty's Goverment. Chief among the subjects selected for training abroad are engineering, general education, health and agriculture.

Land Reform

Any plan designed to raise the standard of the masses must accord pride of place to the resolving of agrarian problems. This is necessitated by the fact that more than 90 percent of the people of the Kingdom depend on land as the chief source of livelihood. The existing land system is an heirloom from the past, and as such it is not attuned to the spirit of the times and the requirements of development. The major portion of the crop does not go to the farmers under the present system and so there is no encouragement to those farmers who might be interested in experimenting with new methods to step up production. Hence a reform in the land system has become a supreme necessity, not only to increase farm output through introduction of new techniques consistent with dynamic economic development of the country, but also to enable the peasants to gain a major share of the produce and thus remove the economic inequalities prevailing in the society. In recognition of this need the Second Plan has assigned high priority to the programme of land reform.

Another principal objective of the land reform programme is to develop manpower and harness it to development works. Manpower is the largest single resource available to the country at the moment. If it is not effectively utilised in the implementation of development programmes, unjustifiable wastage of one of the major resources will result. All these things point to the need for developing manpower. But to associate the active co-operation operation of the people with the development works will be a practical proposition only if a system is in force under which the people stand to reap the benefits accruing from the execution of the development programmes. If the present system, under which more than 90 percent of the people are deprived of the major portion of the produce, is permitted to linger on, it can be easily foreseen that manpower will decline rather than develop. Hence, the indications are clear enough that suitable changes will have to be made in the current land system for the development and proper utilisation of manpower, if dynamic economic growth is to be a reality.

The present land system of the Kingdom is a product of the feudal system of the past. Its principal characteristic is the exploitation of the tillers and agricultural labourers belonging to the lowest strata of society. Expropriation of the major share of the farm produce, exaction of usurious rates of interest, imposition of compulsory levies and subjection to forcible labour—these are the different form which such exploitation assumes. The lobourers are also cruelly oppressed by insufficient food and the crushing load of indebtedness handed down from their forefathers, and they have further difficulties arising from small and scattered holdings and the multiplicity of crop sharers. Confusion arises from the fact that the land system is not uniform throughout the Kingdom. The rates of rental and interest differ from place to place and the traditional land usages are also equally bewildering in their variety, thereby making the task of agrarian reform extremely complex.

Land Act and Birta Abolition Act

Let us now consider the measures taken in the past to improve the land system. These are as follows:

1. The Land Act of 1956.
2. The Birta Abolition Act of 1959.

The Land Act of 1956 fixed the rental, levy and interest et cetera payable by the farmers. It abolished certain unjust usages and safeguarded the tenancy rights of the peasants. It laid down the ceiling of rental at 50 per cent of the produce, but stated that where a lower rate was in force, such rate should stand. It laid down that the rate of interest on cash or commodity loans, except the loan of seeds or seedlings, should not exceed 10 per cent. In the case of seed-loans, the ceiling was put at one-third of the advance made. This Land Act made illegal any forcible levies either in cash or in kind which were raised on various pretexts. It also did away with the employment of peasants except on payment of fair wages. The most important part of this legislation was that which related to protected peasantry, which gave the status of protected tenants to farmers who had been tilling the land or otherwise cultivating it for a year or more. It also provided for the safeguarding of the rights of the land owners. According to the Act, a record of protected tenants had also to be kept.

The Birta Abolition Act of 1959 did away with the system of Birta (tax exempt) holdings. Under its provisions, landed estates enjoying partial or total exemption from taxes, or taxable at a rate less than that of the prevailing land tax or taxes, were converted into Crown lands. In other words, proprietory rights over such lands were transferred to His Majesty's Govrrnment. For purposes of land tax, the rental collected from the tenant by the Birta owners was treated as the basis of calculation in some cases, while in the case of others the land tax was levied on a par with the adjacent Crown lands. The Act also provided for compensation to the Birta owners.

It would appear that the abolition of the Birta system did not benefit the tenant, inasmuch as he now had to turn over to the Government what he had formerly been paying to an individual. In the accepted sense of the term, therefore, the Birta Abolition Act does not seem to have had any connection with land reform. But in this connection it must be remembered that under cover of the Birta, the tenants used to be subjected to certain special levies or extortions, which ended automatically with the abolition of the Birta. Moreover, the tenants were brought into direct contact with the Government. In the administrative set-up prevalent in the country in the past this fact would not have meant anything, but with the Revolution of 1950-51 it has assumed special importance, because as a result of the abolition of the Birta, Government revenue increased and a sense of security was engendered for the cultivators of the land, while at the same time the chief obstacle to the land reform programme was removed. This change in the organisational structure has made it easy to frame and execute necessary measures with regard to land reform.

In this connection, it would not be out of place to refer to the abrogation of Principalities with effect from the first quarter of 1962. Consequent on this historic step, the ancient Principalities existing in the different parts of the Kingdom as a relic of the feudal system vanished from the scene. Like the abolition of the Birta, it not only led to the increase of government revenue but it also brought the people into direct touch with the Government.

Abolition of the Birta and the Principalities brought about the structural changes needed for land reform. It should, however, be noted that these steps were of preliminary nature. Their chief contribution was limited to the creation of conditions necessary for land reform. If the lot of the peasantry is to be transformed, it is obvious that more effective steps will have to be taken.

Land Reform Programme in the Second Plan

To make available the highest possible share of the farm produce to the peacants as part of the programme to lead their intelletual, social and economic development, is a basic function of land reform. To this end, most countries have imposed a ceiling on land holdings and transferred ownership of excess land to the peasants. This system cannot be applied to Nepal in the absence of the necessary data and organisational structure. That is why the reform measures till now have aimed at protecting the rights of the peasants, reducing the terms of rental and interest as much as possible, and abolishing feudal customs and forced labour. Such was the aim and object of the Land Act of 1956. It would be no exaggeration to say that even if these objects were fulfilled, more than 90 percent of the peasants would fare better. Looked at from this point of view, the Land Act was a revolutionary step. But this excellent piece of legislation could not be properly put into effect in the absence of the necessary organisational structure. The lack of a complete record of land rights, the absence of any source of credit other than the existing ones, the shortage of land classification, area delimitation and proprietory definition et cetera-the lack, above all, of an efficient and competent land administration essential to the implementation of this Act-all this has rendered the enforcement of this Act exceedingly difficult.

Emphasis has been laid in the Second Plan on the successful implementation of the aforesaid Act and other programmes relating to land reforms. Statistical data on the land system are presently in short supply, and particularly, a complete account of the area and nature of individual land holdings is lacking. To fill these gaps the Second Plan has given priority to cadastral survey, agricultural enumuration and maintenance of proper records of land rights, in addition to preparing the ground for making available sources of credit other than the existing ones. In the interest of securing increased productivity in the near future, the claims of agriculture extension programmes and irrigation have been duly recognized. Greater awareness of the farmers towards agrarian and agricultural problems can, it is hoped, be generated through the medium of the recently formed village panchayats.

Special efforts will be made within the Second Plan period to bring into existence a well-knit Land Administration Authority in furtherhence of the objectives mentioned above. The main function of the proposed Land Administration Authority will be to keep a proper record of particulars concerning land ownership, tenancy rights, mortgage rights and so on, to take note of transferance of such rights to any individual or institution by sale, gift or mortgage. and to direct and administer the land system on the basis of this record. At present, no such records are maintained properly, and the various transfer-deeds are not duly entered. To maintain such records is not an easy task, nor is it capable of accomplishment within a short time. Nevertheless, there is no doubt that the success of a land reform programme turns on a good record of land rights and on an efficient land administration organization.

Reference may be made in this connection to the high level Land Reform Commission appointed by His Majesty in 1961. According to its terms of reference, the Commission was to suggest recommendations on measures to improve the conditions of the peasantry on the basis of a thorough-going study of the land system in the Kingdom. It has already submitted its report, which is under the consideration of His Majesty's Government. Fuller dicussion of it must be withheld until the steps to be taken by His Majesty's Govetnment on the basis of the report are known.

Implementation of the land reform programme on a country-wide basis must follow proper consideration of the organizational structure needed for its success and of its effect on the development of agriculture. The people also should be duly enlightened on the benifits that accrue from the implementation of the land reform programme conducted in a certain area. For this purpose the land reform programme will be carried out on an experimental basis in certain area inside the Kingdom. It will not only shed light on the organisational structure needed for such a programme but will also provide models for other areas to emulate. While implementing this programme, co-ordination will be worked out between the cadastral survey, agricultural credit and such other organisational reforms under the land reform programme and the programme of agricultural development. Reform in the land system must be concurrently accompanied by the expansion of agricultural production, for a speedy rise of productivity can lead to improvement in the lot of the peasantry even with the situation as it is. Hence, provision of agricultural credit, safeguarding of tenancy rights, and determination of the rates of rental and interest—if accompanied by provision of irrigational facilities, distribution of improved seeds, protection of crops and use of fertilizers—will be of great help in changing the conditions in which the farmers live.

Cadastral Survey

The land tax structure presently in force in the Kingdom has no scientific basis. It was imposed on rule-of-thumb classifications based, for example, on quantity of soil, seed requirement, number of plough-shares or hand-operated mattocks (of the short handled variety), and so on. It has not been possible so far to determine the exact extent of the tillage. To add to the confusion, there is no clear definition of the ownership of the land and its delimitation. The aim of cadastral survey is precisely to remove these difficulties — to keep a land record, setting out in exact detail the extent, nature and proprietorship of land and to calculate the exact sum payable as land tax. A cadastral survey measures and maps out clearly the cultivated lands, cultivable wastes, forests, etc. of each village or estate within each district. Along with the map, a Register is prepared of the proprietors of each land track on the basis of legal proofs or by legal procedure. The number of holdings in the possession of each proprietor, the cadastral number, area, location and nature, etc. of such holdings, along with the total tax payable by the proprietor at the rate fixed by the Government, will be entered under separate heads.

Progress under the First Five-Year Plan

The First Five-Year Plan aimed at preparing a Register and itemising particulars of land holdings, as well as conducting a cadastral survey of half of the Kingdom. According to the Plan, work should have been commenced in eight zones but at the end of the Plan period only five zones could be accounted for, covering 633 thousand bighas and 584 thousand ropanies, or 1.1 million acres of land in 13 districts; of which a survey-map was prepared of 191 thousand bighas and 250 thousand ropanies, or 336.5 thousand acres of land. Lack of Land records, difficulties of registration, outdatedness of the old edicts, decrees and instructions, and laxity of administrative control and supervision were not conducive to smooth operation, with the result that only a small fraction of the total area of the country, which is about 3,500 million acres of land, could be surveyed.

Programme under the Second Plan

His Majesty's Government has aimed at land reform with a view to enabling the peasants to keep for themselves the products of their labour. This is of prime importance in a country where the majority of the people subsist on agriculture. The current Three-Year Plan has given priority to cadastral survey, since knowledge about the ownership, location, extent and other particulars of land are essential to such a programme. As the survey of the entire area is a time-consuming process and is well beyond the resources available at present, the Plan has set for itself the target of conducting cadastral surveys of the comparatively important parts of the Tarai and the hills, namely, the valleys and the doons.

This is desirable also from the standpoint of the transport and communication facilities available.

In consideration of the above, the Plan aims at completing within the next three years the survey of 484 thousand acres of land covering the entire area of Jhapa, Morang, Mahottari, Saptari, Sarlahi, Rauthat, Bara, Parsa, Makwanpur, Chitwan, Butwal, Dang, Devkhuri, Banke Bardia, Kailali, Kanchanpur and Dadeldhura, and part of West No. 3, Baitadi and Doti. For this purpose a sum of Rs. 10 million has been set aside. Progress to date may make the survey programme appear ambitious, but the prospect looks bright, inasmuch as the training of the surveyors has almost been completed. And if the organisational structure, outlined below, can be brought into being, there is much possibility of attaining quick progress on the basis of past experience. Furthermore, it is obvious that well-organised and systematic surveys of certain areas, instead of simultaneous operation in many places, is bound to hasten the pace of progress. This factor has been taken into account while drawing up the survey programme.

Under the programme, the regions chosen for the survey have been divided into 10 parts and a survey team will be deputed to each part, headed by a settlement officer. In the first year of the Plan, only seven such teams will operate. Every team will consist of 10 sections led by one inspector each section will be composed of seven men. The survey operation for the first year will be manned by 500 surveyors who are already employed, and 200 men who will be trained.

If we put the land tax collected from the Tarai and the Inner Tarai at Rs. 15 million, excess land is estimated to be of the order of 25 % on the average. And the increased receipt from land taxes, which will result from the imposition of current taxation rates on land which till now has been subject to levies according to ancient customs and usages, will inevitably increase the amount collected as land revenue.

Organisational Structure Essential to Survey Operations

A number of factors contributed to the disappointing results of the cadastral survey conducted within the First Five-Year Plan. Want of co-operation on the part of the zemindars, landowners and patwaris, lack of summary settlement of land disputes, divergence between the law and the reality, and weaknesses in administration were the stumbling-blocks. And these impediments should be removed, if the survey is to operate successfully.

Management

To carry out the survey operation efficiently, the different levels should be clearly defined and the responsibility at each level should be unambiguously delegated. Job descriptions of the officials at each level, such as the settlement officer, inspector, surveyor and so on should be clearly set forth. For example, the settlement officer attached to each survey team has the job of dividing the area of operation of each section under him on the basis perhaps, of a rough map of the villages and estates of the district or area set apart for each for a year. And the job of the inspectors is to allot to their surveyors the respective villages and estates and ask them to define the boundary of each district or estate and classify the land in it as cultivated, arid or wooded, etc., and to check on their findings. The surveyors will then cadastrate according to the written or oral statements lodged by the persons concerned, and enter into the field book particulars relating to cadastral number, extent, location, type, and names of the tiller and the land owner. This will be followed by the compilation of the Register. The work of taking measurements, preparing maps and compiling record books can take place for eight months a year only. It will have to be called off during the rainy season, when a statement will be prepared showing, in a condensed form, the quantity and type of land which each individual owns in a village or estate and the total land tax which is to be realised from each. This statement will be filed with the survey office concerned.

Inspection and supervision plays a vital role in the successful execution of a survey programme. Accordingly the settlement officers and inspectors will maintain proper surveillance of the team or sections under their control. For that purpose they will not put sole reliance on the reports in writing submitted by the team or sections-rather, they will conduct inspections on a separate and independent basis, such as the spot-check method.

Registration

The survey work should be conducted in close liaison with the Revenue Offices and related revenue-collecting agencies such as the zemindars and patwaris, since these agencies possess full particulars about the present tillers and landowners. This will prevent duplication of labour and resources. Indeed, a two-way traffic should be established, with the survey office also communicating its findings to the Revenue Office and or its attached agencies. This arrangement, if it functions effectively, will produce up-to-date and authoritative records within a relatively short time, leading to increased Government revenue.

When cadastration follows, on the basis of facts supplied by the Reveuue Office, or testified to by the landowner or tiller of the proximate land or by the local people, the survey work will thus command popular co-operation and confidence. After careful cadastration the land will be registered accordingly under intimation in writing to the landowner or his agent. If both of them are not present, written notice will be served with a specified time-limit. There will also be provision for filing complaints, if the parties concerned discern or suspect irregularities.

Settlement of Disputes

One of the important factors contributing to the delay in the survey operation is an inability to arrive at quick settlement of land disputes. Under the present arrangement, further survey is suspended until disputes arising out of the survey have been settled. This state of affairs hinders the work of the surveyors and throws out the time-table. Hence, it seems desirable to institute mobile courts to hear and settle on the spot the issues in dispute. This will permit the survey work to go ahead, while the mobile court looks into the merits of the cases and pronounces judgement with promptness.

The Survey Act

The survey rules presently in force are not geared to help the survey work progress smoothly. They were formulated for application to only a particular area and are not, therefore, applicable to the whole of the Kingdom. Very soon they will be superseded by a new Act which has already been drafted.

Survey Publicity

If survey is to go on without any let or hindrance, it is essential to gain the confidence and enlist the co-operation of the people by means of a publicity campaign through Radio broadcasts and Audio-Visual aids like posters, charts and maps. The objective of this campaign will be twofold. In the first place, it will acquaint the people with the importance of the cadastral survey and help to gain their assistance; and, in the second place, it will expose the misleading rumours spread by interested parties.

Agricultural Credit

Sufficient availability of agricultural credit is one of the main features of the reforms in the land system. In our country the peasants have to depend on landlords and money-lenders for seeds needed during each sowing season and for cash loans from time to time, despite the exhorbitant rates of interest they charge. The peasants are also over-burdened by ancestral indebtedness. These are not obviously, propitious circumstances for the launching of land reform programmes in a satisfactory manner. The very first attempt should be directed towards counteracting these circumstances. The high ideals of His Majesty's Government can never succeed otherwise. The first requirement is for the Government to act as an alternative sources of credit. This will not only lead to the amelioration of the general situation of the peasants, but will also have a deep psychological effect towards removing their centuries-old slavish mentality.

The backward economy of Nepal makes it essential that agricultural credit should be made available either directly by the Government or under Government supervision. For some years past the Government has been extending such loans through the instrumentality of the co-operative societies. This facility is not, however, open to those who are unwilling to or incapable of becoming members of such societies. In any case, the need for issuing loans through a permanent institution seems to be paramount. Taking all these things into consideration the Second aims at bringing into existence an agricultural Credit and Co-operative Bank.

To extent loans to the peasants on easy terms is only one aspect of the relief measure. The other and the more important aspect is to liberate them from the crushing load of ancestral indebtedness. At the moment, however, it is not easy to decide on the steps needed for that purpose owing to insufficient knowledge concerning the nature and volume of such indebtedness. Within the Plan period, a survey will be conducted to bring to light all such pertinent details, along with full statistical information on the various private sources available for loans.

Agricultural and Co-operative Bank

The main objective of the Agricultural Credit and Co-operative Bank is to make available loans to co-operative societies and to individual peasants who require finance for agricultural development. The Bank, a statutory body, in its initial stages will be of modest size. Nevertheless, this Bank, it is hoped, will help fulfil the aim of the Second Plan, which is to increase the amount of agricultural credit, hopefully to a level of Rs. 12 million. Although this amount is quite small considering the problem of agricultural indebtedness, nevertheless it seems that it is best to go slowly and have the increase in agricultural credit based firmly on experience.

Initially, His Majesty's Govsrnment will be the chief source of supply of the working capital needed. Subscriptions from co-operative societies and individual peasants are not expected to amount to much at first, although it is hoped that their share will gradually increase. The initial capital of the Bank will be formed from the credit presently extended to the co-operative societies by His Majesty's Government. The Nepal Rastra Bank, which is the State Bank of Nepal, and the Nepal Bank Private Ltd. ought also to be associated to a certain extent with the establishment of the Agricultural Bank, although they will not be encouraged to buy large stocks.

For the moment it will not be necessary to organise this Bank on a country-wide basis. Judging by the volume of transactions of the existing banks, it is obvious that in the beginning operations will be small. The proper course to be adopted under the circumstances seems to be to appoint the branches and offices of the Nepal Rastra Bank as agents or correspondents of this Bank. There are 40 such branches and offices in existence at present. As has been stated above, it is not at all reasonable to expect this Bank to come into nation-wide operation immediately. Since most of the credits made available by it are to go to co-operative societies, the activities of the Bank might be confined to such places as the Valley of Kathmandu, Rapti, East No. 1, West No. 1, Morang and

Banke where co-operative societies have been opened in large numbers.

Apart from the capital described above, this Bank can tap various other sources for credit. It is understood that there are deposits amounting to more than Rs. 10 million which lie unused for several months a year with financial institutions of the Kingdom such as the Nepal Bank. Such deposits available for short-term investment can be utilised in the field of agriculture. The Bank will generally make use of it in the harvesting season, since the peasants stand in need of loans for some months during the sowing season. In particular, if the time of buying seeds can be synchronized, this money can be put to good use. The Bank can also raise loans from foreign countries.

Co-operative System

The aim of the co-operative system is to bring about a social and economic uplift of the poor peasants by pooling their small capital, fragmentary land and limited labour. This system will not only make available to them credit and other facilities on fair terms but will also help them buy and sell farm produce and subsistence commodities through the provision of co-operative sales organisations and consumers' associations. Furthermore, the system will help develop industries through collective use of capital. The experience of other countries, in fact, shows that the co-operative system can constitute an alternative to the present land system. It follows that development of co-operatives is complementary to the introduction of changes in existing agrarian structure; and therein lies the capacity to remove the socio-economic inequalities prevailing in the society and introduce progressive reforms.

The history of co-operatives in Nepal is not a long one. It started some time in the middle of 1954, but not before the inauguration of the First Five-Year Plan was any significant progress accomplished. Within the First Plan period and a year after, that is, by April 1962, 378 different co-operative societies in Kathmandu, Rapti, and other places had been set up under different Village Development Centres. The total membership was 11,059 and the share capital amounted to Rs. 363 thousand. Of the co-operative societies 144 were credit committees, 188 multi-purpose institutes, 12 consumers' unions, 4 sales and credit associations and 18 cottage industries institutes. The loans extended to these different societies are estimated at Rs. 1.5 million. By 1962-63 the number of these societies is expected to reach 800 and loans to be Rs. 2.9 million. The Valley of Kathmandu, West No. 1, East No. 1, Rapti, Banke and Morang are the districts where co-operatives have made the most headway.

Programme Under the Second Plan

2,200 new co-operatives are to be opened within the Plan period. The activities of the proposed societies will no longer be limited to the field of credit only. On the contrary, encouragement will be given to the organisation of co-operatives, relating to sales, marketing, consumption, production and so on. In addition, 14 new sales and credit organisations will be formed. These organisations will perform banking functions and will be organised on a country-wide basis.

After the formation of these societies, an additional number of 66 thousand families, or 330 thousand people, will have been associated with the co-operative movement. Members of the co-operative societies are entitled to borrow money on payment of interest at the rate of 10% per annum. To increase their capital, the co-operative societies can borrow from co-operative unions at 4% interest. The co-operative unions will secure loans from the Government co-operative development fund at 2% interest. When the proposed Agricultural Credit and Co-operative Bank is opened, such loans will be made available through its fund of Rs. 12 million which is the amount proposed to be made available to the co-operative societies within the next three years.

The amount appears to be very much less than what the existing and prospective co-operative societies may require for extending loans to their members. Generally, a loans of Rs. 300 to each family is needed. Even so these societies might be able to make do with Rs. 5,000 as the liquid capital of each. Computed on this basis, the credit amount specified above is a little less. Yet, when it is realised that most of these societies are still in their initial stages and that the quantity of loans to be extended by them varies according to necessity and productive activities, it may be sufficient for the present. From the standpoint of duration, loans may conveniently be divided into three categories—short-term loans, which extend a few months; medium-term loans, which extend to one and a half years; and long term loans, which extend to five years. Short-term loans will be made available for purchasing seeds in the sowing season, whereas medium-term loans will be made available for the purchase of ordinary farm implements, improved seeds, fertilizers, fruit plants and raw materials for small industries. Long-term loans will be reserved for those who wish to purchase heavy implements, construct small canals and conduits, or construct machinery and buildings necessary for small industries.

The formation of co-operative societies will give priority to sales organisations consumers' and producers' unions. More provision of credit facilities is not enough to bring about a permanent change in the living conditions of the farmers. For that purpose an improved economic structure has to be created, Co-operative management and organisation of sales will not only fetch fairer prices for farm produce but will also give the farmers an opportunity to add to their capital. Similarly consumers' unions enable them to by articles of daily use at reasonable prices. Refinement of agricultural output, which does not necessitate expert technical knowledge and large capital outlays but which enhances the selling price, can be undertaken on a co-operative basis. There is no doubt that if the loans to be made available by the co-operative societies are linked with these different activities, they will produce better results.

Co-operatives and the Panchayats

His Majesty's Government has formed 3,474 Village Panchayats throughout the country with a view to empowering the local people to carry out local administration as well as development works. It is highly essential that the Panchayats be kept in touch in respect to the development works at the local level, particularly those connected with the peasants. For Panchayats can not only help form co-operative societies through proper encouragement and publicity campaigns, but they can also assist in the development of the co-operative societies through proper encouragement and publicity campaigns. They can also assist in the development of the co-operative movement through proper supervision and assistance to the existing co-operative societies. The closest possible liaison is, therefore, highly desirable, not to say imperative between the Panchayats and the co-operative societies.

Store House

The construction of a store-house is essential in each area where there is a sales and credit organisation, if the purpose of such organisation — namely, to arrange the sale of the produce of the co-operative members at reasonable prices and to make available to them agricultural and other commodities on easy terms - is to be realised. Advance of loans to the persons belonging to the lower strata of the rural society, if it is not accompanied by proper arrangements for fair disposal of their excess produce, is likely to defeat its purpose. Within the Plan period sixteen additional store-houses will be built. They will form part of the property of the sales and credit organisations and the cost will be reimbursed on instalments spread over twenty year. It will be subject to 2% interest.

Administrative Set-Up

To date, co-operatives have been confined to certain specific areas, which was unavoidable in view of the shortage of technical and capital resources. The Second Plan, however, intends to spread this movement all over the country with special emphasis on certain specific areas. It will not be limited to the 19 Development Districts as at present, but will embrace the whole of the 75 Development Districts with special emphasis on 20 Development Districts according to the needs and wishes of the people. For this purpose 14 Co-operative Offices will be set up at intervals in 14 zones according to requirements. To held and assist these, 14 Co-operative Officers will be appointed. There will be a sub-inspector to look after 25 co-operative societies, and an inspector will be at the head of two such sub-inspectors.

Reforms In The Administrative Structure

In the absence of an efficient administrative structure, no plan can be implemented smoothly. This is particularly true of a backward country like Nepal. Execution of development programmes brings the public sector increasingly to the fore, and if the administrative machinery is not improved from time to time, the increasing work-load will not be handled efficiently. It may even limit the effective area of economic development. A plan drawn up on an ambitious scale without reference to the capacity of the administrative system can yield nothing but frustration. Popular confidence in planning itself may decline. This is obvious when we make a comparison between the dimension of the development programmes since 1951, particularly the Five-Year Plan initiated in 1956 and the changes introduced in the administrative set-up since that time.

Administrative efficiency is not a mechanical product of administrative changes. As a matter of fact, frequent changes in the administration are not at all desirable. Generally speaking, experience and training are equally necessary for the promotion of administrative efficiency. Trained personnel, systematic procedure and scientific regulations are invariably associated with good adminiftration. In this respect Nepal is suffering from her inability to incorporate the features of a modern system in its administrative organisation as handed down from a past age. Lack of co-ordination is the main symptom of the disease. The remedy lies in creating a system attuned to present demands. It means that radical changes have to be made in the current set-up.

In this connection it deserves notice that, with a view to decentralizing administration, His Majesty's Government has recently adopted the policy of applying the Panchayat system to the whole of the kingdom on the basis of a new demarcation of districts and zones. Accordingly, the kingdom has been divided into 14 zones and 75 districts in place of 32 districts, and a separate arrangement with regard to the Kathmandu Valley has been set up. A Commissioner and a Development Officer have been appointed for each zone and district respectively. Till now, Panchayats have been formed at the village level only. As soon as district and zone Panchayats are formed, the administrative responsibility will be shifted to them. Termination of the old system at one stroke is fraught with dangers. The task of evolving a new system will be performed with care and circumspection within the Second Plan period.

Long-Term Scheme

It is not possible in the present situation to demolish the existing administrative structure and substitute a new one. Conditions necessary for the evolution of a permanent system can not be created, unless and until profound analysis has been made of the nature and volume of work, powers and responsibilities and the interrelations of the different organs of the administrative structure. Hence, to bring about reforms in the administrative system from the long-term point of view, adequate knowledge concerning the workings of the existing administrative machinary is essential. Within the Second Plan period a detailed survey of the system and its different organs will be made. The survey will take into account the job division of the different administrative units, the relations between the high grade and the low grade officials, capacity of the different units and their mutual relations. In short, the survey will take into account both the organisational and functional aspects. It will be of a general sort in the beginning and will later prove into specilised fields like the State undertakings, personnel management methods and working conditions etc. The survey will be conducted at the centre, to be followed later at the district level. In this connection, detailed manuals relating to official work will be prepared. This survey will lead to the acquisition of knowledge needed for the reorganisation of the administrative structure in a permanent form.

Current Reforms

Although what has been said above is eminently desirable from the long-term viewpoint, the smooth implementation of the Second Plan demands administrative reforms in the near future. Structural changes can wait if reforms are immediately made to step up the capacity of the administration. With this end in view, certain necessary steps have already been taken and others will follow in the course of time. Some of these steps are given on the following page:—

1. Decentralisation of Administration

His Majesty's Government has adopted the principle of decentralization of administration with a view to increasing efficiency within the shortest possible time. One of the main objectives of the Panchayat system, which has been introduced in the kingdom, is to disperse to the zonal, district and village levels the administrative power hitherto heavily concentrated in the capital. Following this dispersal of responsibility different regional Panchayats will not only shoulder the responsibilities of local administration but will also take upon themselves the administrative responsibility for development programmes undertaken by the Centre. Lack of training and experience on the part of the local authorities prevents the immediate application of this system in a satisfactory manner, but it will surely inject a certain amount of efficiency into the administration and will prepare the ground for more significant achievments in the future. Reforms in the administrative structure, to be undertaken later, will be carried out against the background of the Panchayat system.

2. Amendment of Development Rules

Certain amendments in the current Development Rules have been made to make them more simple, serviceable and modern. Accordingly, more and more decentralisation has been shifted to the administrative units at different levels. Concentration of power in the higher level of the administration or in any specific Ministry is not conducive to the smooth despatch of business at the lower level or on the work-site. Hence, it is responsibility intended to assign power to the different levels of the government organisation. This problem will be resolved in a large measure when the district or zonal Panchayats come to enjoy greater power. By the amendment of the Development Rules the procedure for purchasing commodities necessary for development works has been considerably simplified and the lower and local authorities have been invested with wider discretion in this respect. In the same way, the local authorities have been empowered to a large extent to determine the rate of wages, which has increased considerably recently, although at different rates in various parts of the economy.

3 New Payment Procedure

Another reform made to improve the administration has been the payment procedure. Designed to facilitate prompt sanction, the new payment procedure will be applied throughout the kingdom. According to it, once sanction from the Finance Ministry has been secured on a quarterly basis, the Ministry or Departments concerned will have the spending authority subject only to Budgetary limitations. Satisfactory application of this procedure depends on the maintenance of account books in proper form and arrangements made for auditing. For this purpose accountants will be trained to keep proper accounts. Since the greater part of the Development Budget is to be met out of foreign aid, it is desirable that foreign aid be available in time. In other words, a co-ordination should be worked out between the procurement of foreign aid and the phasing of development works. Besides, to make the amount sanctioned for development works available to the work-site, an accounting system will be necessary.

4. Provision of Special Arrangements

Special arrangements have been provided for the implementation of certain projects which appear to be specially important from the standpoint of economic development. While executing these projects, the works of different departments will have to be co-ordinated since reliance on the ordinary administrative channels may involve delays. It is for these reasons that the provision of special arrangements has been made. Among the projects now under way, the Karnali Survey, East-West Highway, the Sugar and Cigarette Factories and similar projects have been provided with special arrangements. This policy has also been adopted in respect to irrigation and drinking water projects and some of the agricultural programmes and cottage industries. Separate boards have been created to direct their operations. Similarly, some of the major irrigation and road construction projects will also be implemented through special arrangements. Apart from the measures enumerated above, construction and renovation of buildings at the centre and in the districts are noteworthy. Under this programme construction of buildings to house district headquarters, revenue and customs officers etc. has been started. The present economic situation, however, does not permit the luxury of constructing such buildings on a nation-wide basis. Here, as elsewhere, gradualism is what is aimed at.

Co-ordination of Development Works

Another job to be done in the field of administration to conduct development works efficiently is to co-ordinate the functions of the different units of the administration and to harmonize the different resources available. In a sense, this problem forms part of the wider problem of planning. But it also raises its sinister head at the level of implementation. The ability to get together labour, equipment, materials and technicians in time and on the actual spot of the development work is vital to the success of the Plan. This question assumes greater importance in such a country as ours where the paucity of the means of transport and communication is so severe. We can cite numerous instances from the First Five-Year Plan in which, owing to shortage of building materials like cement, and timber, the execution of several projects was delayed. We have now the National Trading Company, formed in the public sector, which may come in hand as an agency to assemble the construction materials and equipment mentioned above. It is obvious that, to this end, the programmes of the different Departments should be properly co-ordinated. More important than this, however, is it to prepare a correct, phase-wise estimation of the various material requirements for the implementation of the projects in the different fields. In other words, the Ministries and Departments concerned should introduce the system of correctly arriving at an estimation of the commodities, financial resources and building materials needed per unit in each field of development.

Another sphere in need of work-coordination is the regional administration hierarchy. According to the policy of His Majesty's Government to develop the Panchayat system, there are at present three tiers of regional administration in addition to the Central Government, and coordination among them should be effected. At the moment, the problem is not so complicated because only the village Panchayats have been formed. The functions of the village Panchayat will be discussed at some length later in these pages. Before long, however the district and zonal Panchayats will come into existence, and so the functions and responsibilities of these different tiers should be clearly defined. Until such time, the greater portion of the development works, except those of purely local importance, will be on the Central Government, due to the want of technical and financial resources at the regional level. According to the principle of the decentralisation of power, they will later have to take on more and more administrative obligations. But if they are to discharge their responsibilities and carry out their functions systematically and in a smooth manner, the most important thing is a well-defined division of functions and a high degree of co-ordination.

From the standpoint of planning, the requirement in the field of administration is not only for the smooth execution of the development programmes, but also for the formulation and evaluation of the Plan. The farmers of the Plan should scrutinize each project on the basis of available resources and the development potential, on the one hand, and the technical and financial requirements, on the other. Further, maximum utilization of the limited resources requires that duplication of work be avoided and that harmony prevail. Because of the shortage of efficient and experienced workers, these things could not be taken into account as much as was desirable with regard to the projects carried out hitherto. It is axiomatic, however, that to maintain a sustained economic growth the Plan should be complete in all respects. At present, 'planning cells' are maintained in the different Ministries to prepare plans and to assess the progress of these plans. But planning at this level alone is apt to be vitiated in preparation and coordination, if it does not release a 'chain reaction' through the Departments and down to the lowest levels concerned. It is, therefore, imperative; not to say obligatory, to install 'planning cells' at these levels as well. These cells will draw up the calendar of operations and will keep a watch on, and evaluate the progress of, each project in addition to compiling statistics. They will also function as connecting links with outside or extra-Departmental agencies and will thus help the National Planning Council and the Ministries formulate plans to the satisfaction of all. There can be no doubt whatsoever that economic development will gather momentum on the basis of a plan drawn up after due thought has been given to the propriety of the projects and the machinery of co-ordination at these different levels.

Evaluation of the Plan

Accurate knowledge about the extent of the contribution made to economic development by planning will without doubt be of immense value to the formulation and execution of future plans. To this end, periodic reviews should be made of the progress made in the implementation of the Plan and the actual benefits accruing to the country in proportion to the cost involved. Proper evaluation is of special importance to a country like ours which lacks training and experience in planning, if wastage of the available resources is to be avoided. One of the chief duties of the National Planning Council is to assess the progress of the development programme — a task in which the co-operation of the administrative structure is called for. The progress of the projects under way has been reviewed from time to time. In this connection, mention may be made of the progress report of the First Five Year Plan, drawn up by the Council. Its actual evaluation has not yet been possible.

A permanent arrangement should be made to obtain periodic reports on the projects being implemented by the various Departments. As a rule, such reports may be called for on a quarterly basis with provision for more frequent reports on priority projects. Similar permanent arrangement for the evaluation of projects is difficult to secure in the absence of trained personnel. For the present we must content ourselves with the evaluation of certain selected projects by a committee of experts appointed for the purpose. Whatever the shortcomings now, it will at least lay a sound base for the future.

State Uudertakings

The Government has made it a matter of policy to create autonomous bodies to run the present and the prospective State undertakings such as power, irrigation, the railways and the ropeway, rather than entrust them to the Departments as hitherto. Government Departments cannot afford to side-step the rules of general administration. And in the process commercial principles are conveniently overlooked. Commercial principles stipulate self-subsistence as the primary requisite for the maintenance and development of the different enterprises. But the various undertakings in the public sector are running at a loss, though they have long been in operation. Not being autonomous, the spirit of independence could not grow and, as a result of the obligation to keep within governmental administrative rules, delay and negligence was fostered, the cumulative effect of which was that they had to be subsidised by the Government instead of themselves being, as they should, sources of income.

Recently, some of the undertakings in the public sector have been converted into autonomous bodies according to the policy of the Government as stated above. Chief among these are the Royal Nepal Airlines Corporation, the Nepal Industrial Development Corporation, the Nepal Timber Corporation and the National Trading Company. Before long the management of the power supply of the Kathmandu Valley will also be turned over to an autonomous corporation. His Majesty's Government has decided to adopt in future the same policy as regards the ropeway, irrigation facilities and so on.

Creation of autonomous bodies or corporations does not solve all problems, particularly in view of the chronic shortage of managerial experience and competence. In a backward economy it is not enough that the day-to-day administration be improved. What is more important is that the balance of profit go on increasing year by year so that they might be capable to develop themselves. It means that the State undertakings should be managed in a planned way with due regard to future developments. It means that they should also have 'planning cells' of their own as described above.

Encouragement to those who work honestly and sincerely is also central to the development of these undertakings. Encouragement should be given, in particular, to work calculated to raise output.

Training

By far the most important factor of efficient administration is the availability of trained personnel. The nature and type of training is a variable factor which changes with the administrative requirements which, in turn, are conditioned by the changing stage of economic development. So far it has not been possible to impart such training to Government employees. The only redeeming feature is that the standard of efficiency of the persons recruited to the service is higher than in the past, thanks largely to the system of selection through open competitions organised by the Public Service Commission in recent times. Directly recruited from outside, these appointees betray lack of administrative experience, which can be eliminated only by provision for suitable training.

The Plan aims at setting up a permanent Administrative Institute to make available training facilities to Government employees at all levels. A building will also be erected to house this Institute. At present short-term training courses are conducted by the Department of Organisation and Methods in the form of seminars for high-grade officers and accountancy training for junior staff. But if proper training is to be imparted in a well-organised manner, a permanent arrangement, as envisaged by the proposed Administrative Institute, is highly desirable.

A further point touching on the training of personnel deserves consideration, namely, a trained person should be posted in conformity with the training he has undergone. A round peg in a square hole not only implies a wastage of training but also induces a spirit of indifference towards training as such. It should also be accompanied by proper facilities with a view to encouraging the desire to be trained in certain specific lines where training is indispensable. At present the facilities tend to be equal all round. And, last but not least, evaluation at frequent intervals of the impact of the training programme on administrative efficiency should be carried out to fix the future lines of action.

Panchayat

His Majesty's Government has set itself the task of developing the Panchayat system as the most suitable medium of associating the people with the administration of the country and of rapidly raising the standard of living of the people by utilising the locally available resources on the basis of collective partnership. Formation of the elective panchayats will not only secure decentralisation of responsibility but will also create necessary conditions for the people to make direct contributions to development works. It will prove helpful in promoting self-reliance and a sense of co-operation and will in the long run contribute to the all round development of the people through utilisation of the energies latent in them. From the stand-point of economic development the Panchayat system occupies a place of special importance both as a means of determining the needs of the local people and of utilising most effectively and in a planned manner the resources allocated to the fulfilment of such needs.

Panchayat and the Village Development

Hitherto the Government has been operating a village development programme for the development at the village level since 1953. The programme included free exhibitions to demonstrate improved methods of living and production; construction of canals, roads and buildings on the basis of popular co-operation; increase of agricultural production; provision of social services and so on. Until the launching of the First Five-Year Plan there were only seven development blocks, which reached fifty-five within the Plan period. On the basis of the volume of work, these blocks were divided into three categories: low-grade 6, intermediate 34, and intensive 12. Under this programme, improved seeds were used on more than 68 thousand ropanis and chemical fertilisers on more than 85 thousand ropanis of land. More than 95 thousand cattle were treated for various diseases and a little over 200 thousand were vaccinated. Approximately 3,000 irrigation tanks were dug and more than 1,500 miles of roads and 700 miles of canals constructed along with inoculation against smallpox and cholera given to a little above 500 thousand persons. The number of teaching institutes opened was 3,300 in addition to the formation of about 8,500 welfare committees. In this connection, mention may also be made of training imparted to about 862 village workers and 2,260 local leaders.

Yet for various reasons the progromme of village development was not executed satisfactorily. In the first place, the programme was confined to only certain areas of the Kingdom. Secondly, it did not touch off, as it should have done, enthusiasm and a co-operative spirit among the people, largely because the people did not have any say in the formulation of the programme which was imposed on them from above. Thirdly, as it was carried out under the direction of different foreign aid missions and thus in pursuit of different policies and principles and administrative set-ups, it gave rise to confusion both at the official and popular levels. Lastly, it produced many administrative complications because the structural diversity between the different blocks was not conducive to co-ordination between the Village Development Department and other Departments of His Majesty's Government. With the above as negative examples, His Majesty's Government has decided to launch a uniform programme throughout the districts through the medium of the Panchayat system. The local panchayats will now have the power and responsibility to formulate and implement development programmes capable of fulfilmemt through locally available resources and consistent with the needs of the local people. The Government will provide technical advice and necessary guidance. This arrangement will give no occasion for the people to feel that it is imposed from above. Rather, it will gradually break their habit of looking to the Government for trifles and will evolve an active, alert and awakened village community. Moreover, the local panchayats will be charged with putting into effect the district and village-level programmes of the Government. As a result, the administrative work will be simplified and greater co-operation from the people will be available. Beyond that, the sense of responsibility of the local panchayats will be heightened, and they will be more and more able to take on additional responsibilities of self-government.

Functions of the panchayat

The development works to be performed through the panchayats will be as follows:-

(a) Such departmental programmes, the entire cost of which is to be borne by the department concerned. The panchayats will apply these programmes according to the methods prescribed by the department.

(b) Works to be carried out on the basis of the subventions made to the panchayats with or without specifying any programme. The plan for such works will have to be drawn up and applied within the framework of priorities and objectives as laid down in the over-all national Plan.

(c) Such programmes as are to be implemented by locally available resources in men and material. The panchayats will enjoy full freedom to frame and implement such programmes.

In connection with the formation of the panchayats, His Majesty's Government has promulgated the Village Panchayat (Representation) Act 1962, under which the villages were divided into 3,474 units with one village assembly each. These village assemblies each elected a nine-member executive, known as the village panchayat. The village assembly is declared an organised body with uninterrupted succession. It will maintain a separate 'exchequer' of its own where the sum accruing to it will be deposited. It is also empowered to raise loans within certain rules and collect local rates, levies and royalties. The village assembly will meet at least twice a year.

The main functions of the village panchayat are: to construct and repair canals, cutcha (soft-top) roads and foot-bridges; to plant trees; to undertake first aid and sanitation to look after the property of the village assembly; to keep records of birth, death and other census particulars; to organise fairs; to open schools; to assist increases of production; to popularise cottage and small industries; to encourage the co-operative movement; and to organise labour services. The village panchayat can frame by-laws for this purpose. His Majesty's Government will appoint a village worker as the secretary of the village assembly and the village panchayat.

By now the formation of the village panchayats has been completed. It will be followed by the formation of of the 75 district panchayats at the district-level. At this level the works of the different village panchayats will be co-ordinated. The district panchayats will also carry the responsibility of directing and co-ordinating the district-level development works, and will secure the co-operation of the district people for that purpose. The Development Officers will be ex-officio secretaries to the district panchayats.

Panchayat Programme within the Second Plan

The principal objective of the Second Plan under the panchayat programme is to organise the recently-formed village panchayats on well-laid foundations, to evolve the Panchayat system at other levels as well, and encourage the village panchayats to take the lead in development works. Organised and systematic management of the panchayats now formed is essential for the future development of the panchayat system which in its modern form is new to the country.

According to the proposed Panchayat system there will be 75 district panchayats and 14 zonal panchayats on top of 3,474 village panchayats. At the apex will be the Rashtriya (National) Panchayat. It conforms with the scheme to divide the Kingdom into 75 districts and 14 zones in place of the 32 districts as at present. The village panchayats were formed before the Second Plan had come into force. Now the task that remains to be done is to bring into existence the remaining tiers of the panchayat and to manage and direct the entire structure with imagination and foresight. When the complete fabric is ready, there will be 31,977 village panchas (panchayat members) and 825 district panchas directly associated with the development programme.

Functions of the village panchayats in the sphere of development will be as follows:

(1) The village-level development works will have to be co-ordinated at two levels. Now that the technical departments are to be wholly responsible for the technical as well as administrative aspects of the development works, the panchayats will work out co-ordination between the different departmental works according to departmental directions, this leaves no doubt that the panchayats should have greater responsibility. One of the chief functions of the panchayats is to co-ordinate the village activities in such a way as to prevent wastage of the limited resources.

(2) To draft and execute plans making full use of the locally available resources and consistent with the maximum satisfaction of the local wants is also an important functions of the panchayats. These plans will be woven into the

over-all national Plan since some of it is to be executed at the local level while others will require high-level supervision. The panchayats will be able to secure technical advice and guidance from the technicians working in the villages. This arrangement will be in keeping with the policy of the Government to encourage initiative in the formulation and execution of the Plan. Whatever the short-comings at present made unavoidable by the want of technical 'know-how' and administrative experience, it will undoubtedly prove to be good spade-work for planning in the days that lie ahead.

(3) The Plan aims at intensive development in some of the village panchayats with two ends in view—to weigh the possibilities of development in the villages through the medium of the panchayats and to set up models for others to copy. In the beginning, it will be worked out on an experimental basis. From the administrative as well as developmental points of view what village panchayat, as laid down in the Panchayat Act, should do will be done in the fields of agriculture, industry, education, health, communication, land reform, roads, canals and conduits and in the field of public welfare. On the basis of the experience and successes gained thereby other panchayats will be given encouragement to follow suit.

Training

It need hardly be said that the success of the Panchayat system is largely an outcome of the efficiency of the panchas and the attached workers. With the prevailing dearth of technical experts and men of proved administrative experience, there is no short-cut to increased efficiency. It is, however, undoubtedly true that if training could be imparted to them, they would gain in competence. Training has, therefore, been highly stressed in the Plan.

Arrangements will be made to train the panchas and the Government workers concerned according to need. The panchas will learn about the responsibilities and business rules of the Panchayat system and will gain practical knowledge in the daily round of activities normally associated with a village. During the Plan period at least two panchas from each panchayat will undergo training at the Mobile Training Centres. Besides, seminars will be held from time to time at the village or district panchayat level.

The training of the Government officials attached to the panchayats will take place for the most part in educational centres. For this purpose facilities like the training centres, in operation at present under the aegis of the Ministry of Panchayat, will be pressed into service. Of the Government officials those on the staff of the Mobile Training Centre and the district-level administrative and technical personnel will be given first preference. The village workers will come in for special training, since they have to provide leadership in their capacity of secretaries to the village panchayats.

Survey

To prepare a well-knit plan and to execute it successfully full knowledge about the current economy and the natural and human resources of the Kingdom is an essential prerequisite. It is only thus that development programmes can be drawn up and projects carried into effect with full awareness of the economic benefits. It was exactly this that the First Five-Year Plan lacked and to that extent it was a leap in the dark, with the inevitable result that it did not measure up to the expectations. Whatever the defects of the past, let us at least clear the way for the future. Moved by this consideration, the current Plan has been set the task, in the first place, to prepare initial conditions necessary for the formulation and execution of a comprehensive plan in the future so as to carry on development programmes at a more rapid pace. In other words, collection of statistical data on the resources available inside the Kingdom has been regarded as the basic task and has accordingly been assigned high priority.

The survey operations to be conducted under this programme will be of two types:

(1) A general survey of the physical resources of the Kingdom, which will provide guidance in fixing priorities for the exploitation of these resources. It will cover forest resources, mineral deposits, soil, industrial raw materials, roads and water resources.

(2) Pre-investment surveys which will make available the detailed costs of, and the benefits to be expected from, given projects. It will be the basis for different construction projects. In particulars, major hydel and irrigation projects, mining projects and the projects relating to the construction of an international airport will be given primacy.

Details about the survey programme to be undertaken within the Second Plan period are as follows:-

Forest Survey

Forests are the most precious possession of the Kingdom. It is a prominent source of the national income and the guardian of our climate. Lumber and herbs derived from it help earn foreign exchange. The system of contracting out the felling of trees, in force till recently, has not only reduced the level of income but has also caused much damage to the forest wealth. Out of these considerations, the Government has now decided to do away with this system gradually. Our forests have not been surveyed so far, and so we do not know to what extent the forest industry is capable of development. So long as there is a lack of adequate and accurate statistics on raw materials, no encouragement can be given to the establishment of industrial units. That is why it has become so essential to conduct a detailed survey of the forest wealth at our disposal. Plans to conserve, develop and exploit it will come next.

Surveys will be started first in Banke Bardia, Chitwan and Biratnagar divisions with a view to eliciting information needed for the formulation of a long-term forest plan and estimating the resources essential to forest-based industries. The final survey report should be ready by 1966. Within the Plan period an aerial photo survey section will be established, which will complete the air reconnaissance. Forest investigations, planning of forest organisation, research on forest economics and a basic survey for forest industries will also be initiated, but they will be completed only by 1966.

Working Plan

It takes eight or ten years for a tree to grow from seed and to become fit for fuel. But a tree which is valued as durable timber matures after 150 years. The form and the location of the forests are not uniform throughout the country. Forest products are indispensable to the nation. For these various reasons it becomes incumbent on us to gather necessary data and make long-term scientific plans for its conservation and development, if we are to enjoy its products continuously. It calls for a working plan for the forests, applicable to a definite period of time.

Until recently the work of conservation and utilisation of forests used to be conducted within a general programme. Working plans we initiated in 1962-63. Teams of Nepalese and Indian forest experts have been drafting a working plan in the Birganj division since December 1962, while a purely Nepalese team is in the field in the Chitwan division. Within the Plan period it is intended to prepare working plans for 4 divisions covering Birganj, Kanchanpur, Mechi, and Chitwan to maintain production on a sustained-yield basis. This programme covers preliminary reports, stock mapping, forest insurance, forest mapping, sylvi-culture system management, compartment, boundary, road and fire-line demarcation, out put account, and felling crop lay-outs.

Soil Survey

Soil is the most important asset of production. Indeed, it is looked upon as the basis of production. Production can operate only on the basis of proper knowledge about the different soils. The importance of such a study to a country like Nepal, which is predominantly agricultural, cannot be over-estimated. If agricultural production is to be increased to meet the needs of the growing population, improvement in farm techniques, provision of irrigation facilities, use of fertilisers and manures, and cultivation of arid lands are indicated. But none of these measures will produce maximum results, if it is not preceded by soil surveys. On it depends the successful application of the principle of the best crop in the best place.

Soil surveys will be completed within the Plan period. By then we shall be in a position to assess the soil and take steps to protect and utilise it. The survey programme will cover Morang, Jhapa, Saptari, Mahottari and Sarlahi in the first year; Bara, Parsa, Rautahat, Chitwan, Bhairawa, Taulihawa, Dang Deokhuri, Nepalganj, and Kailali Kanchanpur in the second year, followed by Butwal Tansen, Nuwakot, Pokhara, Nepalgunj, Surkhet, Kathmandu, Janakpur, Dharan and Bhojpur in the third year.

Survey of Water Resources (Irrigation)

Nepal has an abundance of water resources. Flowing from the highest snow-peaks of the world through the valleys and down to the flat alluvial plains of the Tarai, the rivers have high production potentials and appear sufficient for irrigating all the cultivable lands of the Kingdom. Subjective appreciation like this is, however, no substitute for its realistic appraisal. We should collect and analyse information relating to (a) water level (b) gradient and (c) terrain features. Compilation and analysis of these statistics will give a clear-cut picture of the possible development of our water resources and will provide guide-lines for future development. It will indicate lines for future surveys. It will also make it possible to think of immediate and long-term projects for exploiting our water-wealth.

The programmes to be immediately undertaken within the Plan include collection of rainfall and temperature data in different parts of the Kingdom, erection of stream-gauges in some selected rivers and a study of some of the other natural and physical aspects. The data thus collected will be duly processed. Thus regular study of hydrology and hydrography will be kept up, and pre-investment surveys in respect of certain projects will be conducted. According to this programme, surveys will be completed of the Bagmati canal, Arun Valley, Banganga, Sunkosi, Trijunga and some of the doons (valleys) and dry lands in the mountainous regions for irrigation purposes.

Survey of Water Resources (Power)

Rich in turbulent rivers and terrifying cataracts, the Kingdom of Nepal has incalculable hydel possibilities.

The development of it is the 'hinge-pin' of industrial development. Till now we have been backward in utilising and developing this great gift of nature. The time has now come to blue-print projects for its rapid development. What is needed first of all is a set of statistics of a wide variety concerning water resources. Scarcity of electricity, and that too in a chronic form, in a country with such vast water resources—this paradox might be attributed to the lack of statistical information necessary for the implementation of hydel projects. Till now no concerted or sustained effort has been made to get them. The current Plan has given priority to conduct the much-needed and long-delayed surveys in order to compile these vitally necessary data. They will continue even after the expiration of this Plan period. So vast is the water resources of Nepal that any effort to arrive at a correct estimation of its extent is necessarily a protracted affair. But the execution of hydel projects will be possible only after these survey works are complete.

The Plan target is to conduct a hydrological survey of all the rivers and erect gauging stations and complete detailed project surveys of the Kali, Konkai, Kulekhani, Karnali rivers. Details of programmes in relation to these projects are given below.-

(I) Survey of the Kali River

Started in 1961, Japanese experts continued the preliminary survey up to June 1962 and a gauge station was erected. The completed survey will cover the entire Plan period, and construction will start only later. The Japanese experts will complete the comprehensive geological and topographical survey and prepare the design estimate within the Plan period. An investigation office will be set up in Bharatpur for that purpose.

(2) Konkai Multi—purpose Project

Under this project foreign experts will be engaged to carry out the entire geological and topographical survey of the possible project site, and design estimates will be prepared; while, at the same time, collection of statistics of the water resources will continue.

(3) Kulekhani Hydel Project

Various data in connection with hydro-electricity will be conducted and on that basis the most effective site will be selected. Then the foreign technicians will conduct a complete geological and topographical survey of the selected site and prepare the design estimate.

(4) Karnali Survey

Work was started on this project in November 1960 and by June 1962 water gauges were installed at four places. A preliminary survey is now going on with the assistance of the UN Special Fund. Within the Plan period the hydel potential of the Karnali river in its entirety will be estimated and comprehensive geological and topographical surveys of the places appropriate for the generation of hydel-electricity will be ascertained. Design estimates will be prepared on the basis of these survey findings.

(5) Hydrological Survey of the Entire River System

According to the programme of collecting basic information required for the generation of hydro-electricity from the principal rivers of the Kingdom, gauge survey estimates of the entire river system will be prepared in due course and a programme of installing rain gauges and other survey instruments will be kept up within the Plan period and over subsequent years, if necessary. With the gradual expansion of the net-work of such instruments, a hydro-meteorological department will be established.

Botanical Survey

Forests are the priceless treasure-house of Nepal. Herbs and drugs extracted from it constitute one source of Government revenue. Yet our knowledge about these at present is poor. And it is high time that we take up measures to collect statistical d a with a view to drawing up a plan of development.

Before the inauguration of the First-Year Plan experts from the United Kingdom and India had conducted botanical surveys in various places, but no detailed statistics were made available. During the First Plan a Botanical Department was set up to develop the herbs and drugs available in the Kingdom and a survey was conducted in the East No. 1, East No. 2, Chisapani Garhi, Doti, Khaptad and Gosain Kund areas. This Department is now busy preparing a national pharmacopaeia containing descriptions of such herbs and their therapeutic indications.

The Plan aims at publishing a complete botanical pharmacopaeia after the completion of this survey. Survey work will continue in the Siwalik and Mahabharat ranges within the Plan period. Various herbal plants will be collected and local botanical survey departments will be established in Biratnagar and Nepalganj.

Mineral Survey

One of the natural resources of the Kingdom is its mineral deposits. It is generally believed that the Kingdom is rich in a variety of minerals. Situated on the laps of the Himalayas, there is every possibility that the young mountains and the perennial river-beds conceal precious deposits. Hitherto, our knowledge about them was very scanty. For that reason, it has not been possible so far to draft projects for the development of the mineral industries. What is needed, in the first place, is an all-embracing scientific survey designed to yield necessary information on the various mineral deposits available in the Kingdom. Formulation of a development programme consistent with economic benefits will come next.

A mineral survey programme has been in operation since 1952. But it received special attention only after the launching of the First Five Year Plan. These surveys resulted in the discovery of iron, copper, lead, lignite, talc, slate, cobalt, petroleum, gold, mica and rock-salt deposits in various places. Of the places where iron mines were found, Fulchoki, Labdhi Khola, Those and Jirwang deserve special mention. Karchhali and Jyawan also seem to possess iron ores in economic quantities. Copper mines were also discovered in various places, of which the ores found at Wapasa and Arkhaule are noteworthy. The Bakla mine is in operation even now. There is a possibility of striking gold in the Riddi river, since gold particles were turned up while drilling the bed of the Paroudi river in the Riddi Valley. Investigations will be kept up to find out whether these deposits are rich enough to justify commercial exploitation. Lead in Arkhaule, lignite in Fulchoki and East No. 2, talc in West No. 2, slate in

Bandipur, mica in East No. 1 and Bajhang and lime-stone in Bhainse, Markhu and Godavari are expected to be available in economic quantities. Production of these minerals can be a profitable venture only after more intensive surveys are completed.

The Second Plan has drawn up a programme for conducting detailed surveys and preparing maps of the different mines and making pre-investment surveys of some of the selected mines. The task of erecting a mining laboratory will be completed within the Plan period.

(1) Programme for detailed Survey of Cartography

(a) To conduct a detailed survey of the copper mines at Kulekhani and Arkhaule and draw up a geological map covering 100 sq. miles.

(b) To prepare topographical maps covering 50 to 100 miles each of the cobalt and nickel mines of West Nepal and of the mine-sites at Sagar Bhagar and Netadarling.

(c) To survey the fossiliferous palacojic rocks near Kathmandu; the gas and lignite deposits in Kathmandu Valley; and the marble deposit in Godavari.

(d) To keep up the mapping operation in the Nagre Bhorla area and to make a photo map covering 100 sq. miles, if possible.

(e) To make geological surveys and prepare maps of the suspected gold deposits near the mouth of the Kali Gandaki.

(f) To make a sub-terranian hydro-graphical survey of Kathmandu.

(2) Pre-investment Surveys

Pre-investment surveys of some of the important mines will be carried out to determine their production capacities, operation costs and market possibilities. It is only on the basis of such factual information that the development of the different mining industries can be undertaken. Within the Plan period surveys will be made of iron mines at Fulchoki, Labdhikhola and Those, mica deposits of Bhojpur, Bajhang, East No 1, and West No. 1, and the copper mines of Baglung and East No. 2. The Fulchoki iron mine is estimated to have a deposit of 10 million tons, while those at Labdhikhola and Those are estimated to contain 7 and 9 million tons respectively. It has been conclusively proved that mica deposits are available in Bhojpur, Bajhang, East No. 2 and West No. 1 and copper mines in Baglung and East No. 3. But the extent of their richness has yet to be established.

(3) Mining Laboratory

In the programme of developing mineral resources the place of the mining laboratory is of great importance, because so long as the minerals are not properly assessed and analysed, their value cannot be determined. The mining laboratory, under construction since 1960, is now nearing completion. Laboratory equipment will be installed within the Plan period. Apart from analysing minerals, the laboratory will also train techninians. A magazine house will be constructed to store explosive materials needed for laboratory processes.

Industrial Surveys

As in other fields of development surveys are of great importance to industrial expansion. Preparation of the industrial programme should be based on proper knowledge about the industrial raw materials and other available resources, in addition to the market data. Accordingly, the Second Plan has drawn up a programme of industrial surveys under the auspices of the Nepal Industrial Development Corporation. These surveys will chiefly cover : jute, sugar, tea, fruits, oil-seeds and other agricultural commodities along with hides and skins, and wool. Studies will also be made of the extent of market of such articles as textiles, cigarettes, paper, sugar, soap and shoes. Other items to be surveyed will be porcelain, glass, ceramics, talc, marble, lime-stone, mica and other mineral products as a preliminary to the development of industries based on them.

This industrial survey programme will throw light on the resources and possibilities of industrial development. Such informations will be invaluable to private investors who wish to engage in industrial occupations.

Town Planning Survey

With a view to creating healthy and planned townships and improving as much as possible conditions in existing cities, the Plan intends to conduct a survey as regards town planning. Within the Plan period, Kathmandu Valley, Banepa, Biratnagar, Hetauda, Pokhara and Nepalganj will be extensively surveyed and a master plan will be drawn up. A planning expert, loaned under the UN aid programme, has already arrived and undertaken preliminary work in this connection.

Communications

(I) International Airport Survey

The Government has approved in principle the construction of an international airport in the country, Work has been initiated to build a cross runway in order to make the Gaucher Airport in Kathmandu fit for handling bigger planes. Since from the technical standpoint Kathmandu cannot be the site for the proposed airport for international jet planes, a survey will be conducted to determine the best location for an international airport elsewhere in the Kingdom.

(2) Roads

Road communications are in a very primitive stage in Nepal. The economic development of the country demands roads and more roads, which cannot be fulfilled all at once because of limited resources. Work should be started only after examining the relative needs of each part of the country and the technical hurdles that may be created by the peculiar terrain. The plan has, therefore, accorded high priority to the road survey programme. Under this programme existing surveys will be completed and certain new survey projects will be initiated.

Statistics

Statisctical information on the various aspects of the economy is highly essential to the thorough preparation and successful implementation of a comprehensive scheme of economic development. Such statistics as are available at present, are neither adequate nor accurate. Hence, one of the main objectives of the Second Plan is to compile statistics, which will aid the formulation and the execution of future development plans.

The taking of a census is by far the most time consuming venture of data collection. The first population census was begun in Nepal in 1912. But no report in this connection seems to have been published. It was followed by three similar attempt in 1922, 1932 and 1942. Yet it was only in 1952-54 that a population census was undertaken along modern, scientific lines. The job was done in two separate stages for the eastern and the western parts of the country. A combined report was published subsequently. The latest census was taken in 1962 within a very short period of time. Other than the population census it can be said that no data collection took place before the enforcement of the First Five Year Plan. The First Plan saw only preliminary work in relation to the country-wide agricultural survey. Not much was achieved in the collection of export-import figures. Within the First Plan period greatest progress was made in giving practical and theoretical training to officials connected with the population census and the agricultural survey.

Programme Under The Second Plan

Census

The census of 1962 was the sixth in the series of decennial enumeration and second in the series of those taken on modern scientific basis. Yet it has a far greater importance than that of the census of 1952-54, because it represents a unified single effort completed within a relatively short time. The preliminary report of it has been published, according to which the present population of the kingdom is 9.4 million. When the full report is made available, detailed information on religion, nationality, language, literacy, education, marital status, occupation, profession and parenthood of the population according to age and sex will be available. Processing of data will be completed within the Plan period and steps will be taken to publish the report. Meanwhile the result of the enumeration of houses in the urban area is due for publication soon.

There is provision for sample surveys at an interval of every two years to determine facts about population growth. Similarly, to study the movement of birth and death rates a survey will be made of Bhaktapur, Illam, and Parsa and Jhapa on a preliminary basis. The chief objective aimed at is to find out simple but reliable methods of maintaining such records all over the country.

National Income

A comprehensive, country-wide plan needs an estimation of the national income and national output rough it may be. At present owing to lack of statistics not even a rough official estimation is available. Since the greater part of the national income is derived from agriculture, the first effort must be directed towards securing agricultural data. An agricultural survey is already under way, and when it is completed, much of the gap will be filled. Further efforts should be made to collect data on other aspects of the national economy such as industry and commerce. If all this vital information could be collected, national income and national production could be estimated within the Second Plan period.

Agricultural Survey

The Kingdom of Nepal is mainly an agricultural economy, yet the lack of modern, scientific records showing the quantity of lands under the plough, the distribution and use of holdings, the variety of crops and production figures along with an accurate inventory of fowls and cattle, means that there exists a complete 'black out' of information, relating to 80 percent of the national income. Work has been going on since the winter of 1962 in the villages selected in the 10% sample, in all districts except Jumla to compile a reliable and up-to-date agricultural record. Existence of a number of land tracts which have not been officially measured and duly entered in the rolls tends to make the survey results inaccurate as regards the total extent of the cultivated area and the distribution and use of holdings. Until complete uniformity has been deduced from the inter-relations of the different units, no classification of the agricultural lands throughout the Kingdom is possible. And in the absence of such information, the estimation of production will involve a large element of guess-work. The process of filling out the questionnaires is now almost complete. In othor countries agricultural surveys begin and end with this. But not so in our country. We have to reduce the entire cultivated area to a common denominator and find out the type and method of cultivation of different crop. That means we have to take out land measurement and estimate the volume of production crop by crop. There is no doubt that when this operation ends successfully, one of the important data-gaps will no longer be there.

Industrial and Commercial Statistics

Next to agriculture, industry and commerce are the important national occupations. In the field of industry, statistics on the industries registered at present will be gathered while cottage industries will come under a sample survey. As for collecting commercial data, compilation of exports and imports between 1958-59 and 1960-61 has been completed. The task of preparing a digest for the year 1961-62 will also be taken in hand and a regular arrangement for the year-by-year compilation of data will be instituted. This will also include collection of invisible import-export figures with a view to getting a correct picture of the balance of payment position.

Other Statistics

Apart from the above, retail and wholesale prices of the commodities will be regularly recorded in Kathmandu Valley, Biratnagar, Birgunj, Nepalgunj and four important centres in the hill-region to chart out a correct price-curve. A sample survey of family budgets will be made in Kathmandu Valley, the Tarai and the hills and six other places, which should yield a realistic basis for the computation of price movements and will shed light on changes in the standard of living and purchasing power of the different social strata. Arrangements will also be made for the collection of data on education, health, tourism, hotels, cinema, fires, climate, communication and so on.

The most important contribution made so far by the Department of Statistics is the population census enumeration. At present it is undertaking a sample agricultural survey and will in course of time take on such other jobs as have been outlined above. In view of this, the existing organisation for the processing and analysis of the present and prospective data is not adequate. It has to be rendered more efficient and broad-based by the inclusion of a fresh contingent of trained personnel and experts from abroad. Within the Plan period a building to house the Department will also be completed.

Publicity

Publicity activities have an invaluable role to play in the enlistment of the active co-operation of the people and the promotion of development-mindedness. Publicity campaigns are not only the most easily understood means of educating the public but it can also prove helpful in promoting a sense of unity and mutual esteem among the people. But the mass communication media available in Nepal at present are not adequate to do the job properly. There is of course a number of such media, particularly pamphlets, posters and radio broadcasts, doing yeoman service. Yet, there can be no two opinions that they can and should be rendered more effective. The Second Plan, therefore, aims at consolidating the existing communication media and introducing greater variety in them.

Radio Nepal

The following works will be accomplished to make broadcasts more effective.

(1) Community Listening Centres: The chief purpose visualised under this programme is to bring the day-to-day broadcasts to the people by opening listening centres at important places all over the Kingdom. Ten such

centres have already been established. Encouraged by the results, the Second Plan contemplates the installation of 125 such centres.

(2) Monitoring Unit: A Radio Monitoring Unit will be set up to make available news to Radio Nepal and keep a record of news or statements about Nepal broadcast by foreign broadcasting stations.

(3) Work-shop Laboratory: Technical equipment of Radio Nepal is daily on the increase. The stock value of such equipment as at present is estimated at Rs. 2 million. If it is to be put to use according to broadcasting standards, a regular check-up should be made and repairs or re-conditioning done immediately. Within the Second Plan period, therefore, a well-equipped work-shop cum laboratory will be established and a stock of necessary equipment and spares will be built up.

Other important programmes bearing on the development of Radio Nepal are the manufacture of 140 and 70 disc records of the Nepalese vocal and instrumental songs respectively; tape-recording of important speeches and statements, and the establishment of a reference library. Also, a new broadcasting house will be constructed and the existing building will be renovated.

Other Publicity Activities

Audio-Visual aids are accorded top place among other publicity media, particularly the development of the motion picture. Certain movie equipments are already in existence but some more will have to be imported to improve the standard of operations and output. Within the Plan period at least 66,000 feet of films will be shot in the making of 8 documentaries and 22 news-reels. By the third year of the Plan work will be started to erect a film laboratory, since the practice of taking exposed films abroad for editing, developing and sound-recording involves high cost. In addition, about 40,000 still-shots will be printed and displayed in black and white as well as colour. Under the block-making programme, 6 to 7 thousand blocks will be made and work will be started on the production of colourblocks. Apart from these, the existing publicity work will be carried out with greater smoothness in operation and more effectiveness in content.

Training

Trained personnel occupies an important place in the successful implementation of development works. The experience gained from the First Five-Year Plan has proved that they determine, to a large extent, the success of a plan. The First Five-Year Plan could not arrive at a proper assessment of the number of technicians needed for the execution of projects included in it and it could not arrange to give training. In consequence, achievements in many sectors did not measure up to targets. Since the success of this Plan and other future plans depend on the availability of trained technicians in sufficient numbers, high priority has been given to training.

Formulation of a training programme should be looked at from the long-term point of view. Training is a time-consuming affair, and so it should be related to the number of technicians needed for the development work which is to be undertaken in the days to come. But the lack of statistics which we suffer from at present is not conducive to the formulation of a long-term training programme. Again, a long-term training programme is meaningless unless the different development budgets are also set in the same perspective, because, as has been stated already, a training programme is determined with reference to the number of technicians needed for project-implementation and subsequent maintenance. The training programme within this Plan does not adopt the long-term standpoint, for the simple reason that development programmes in other fields are not projected on a long-term basis. Such a point of view, should, however, be adopted while drawing up future plans.

Technicians needed for the implementation of development works may be classified as high-grade, middle-grade and low-grade. High-grade connotes those who have passed degree courses in engineering et cetera. Overseers, draughtsmen and the like form the middle-grade, while the low-grade technicians cover skilled workers like masons, carpenters and plant operators. The facilities in the Kingdom are not adequate so far to train such experts. The First Five-Year Plan had adopted the policy of giving middle-grade and low-grade trainings inside the country itself, sending persons abroad only for advanced training—a policy, which still holds good. Targets of the First Five-Year Plan to the contrary, no adequate arrangement has till now been made for training and even now people continue to be sent abroad for middle-grade and low-grade trainings.

Before and during the First Plan period nine permanent training institutes were set up. And the different Government Departments also set in motion training programmes according to need. Until last year (1961-62) the number of persons receiving training through such facilities reached 6,351, of which the break-down is given in Table VIII below:-

TABLE VIII

Training Institutes	Year of Establishment	Trainees
1. Forest School, Bhimphedi	1959	172
2. Agricultural School Kathmandu	1958	291
3. Rural Institute, Kathmandu-Rapti	1954	1,123
4. Nurses Training School, Kathmandu	1956	23
5. Health Assistants School, Kathmandu	1958	65
6. Engineering School, Kathmandu	1960	30
7. Home Economics School, Kathmandu	1958	90
8. Normal School, Kathmandu	1954	2,253
9. College of Education, Kathmandu	1957	233
10. Surveyer Training	1958	548
11. Cottage Industries Training	1957	1,425
12. Census Training	1961	168
	Total	6,351

Apart from this, 2,163 persons have been sent abroad for higher education and advanced training under the scholarships made available by His Majesty's Government in addition to those of friendly countries under the Colombo Plan and the Participant Programme et cetera. The largest number is composed of those who have been sent to India under the Colombo Plan. Since its inception about 1,400 have been sent to India for further studies. Prominent among other countries are Great Britain, Australia, New Zealand, Pakistan and Burma apart from Russia, China, Checoslovakia and Isreal. Most of the trainees who have gone to the United States have been sent in connection with the US-aided projects. In the training programme, subjects like engineering, general education, health and agriculture have been given importance. Table IX and X below furnish full particulars of the training programme.

TABLE IX

Particulars of Training up to 1961

(Country-wise)

Sl. No.	Subject	India	USA	Russia	UK	Other Countries	Total
1.	General Education	224	77	7	18	89	415
2.	Agriculture and Forest	268	39	5	2	59	373
3.	Engineering	485	10	40	105	63	703
4.	Health	240	66	6	23	83	418
5.	Administration	110	12	—	9	7	138
6.	Industry and Mining	35	21	3	2	10	71
7.	Other Subjects	39	—	—	3	2	44
	Total :—	1,401	225	61	162	413	2,162

TABLE X

Particulars of Training up to 1961

(Year-wise)

Sl. No.	Subject	Before First Five Year Plan	1957	1958	1959	1960	1961	Total
1.	General Education	211	55	38	23	33	55	415
2.	Agriculture and Forest	116	32	54	50	46	75	373
3.	Engineering	195	56	87	121	123	121	703
4.	Health	155	48	54	67	49	45	418
5.	Administration	54	12	14	14	22	22	138
6.	Industry & Mining	13	6	8	15	13	16	71
7.	Other Subjects	24	3	2	—	3	12	44
	Total:	768	212	257	290	289	346	2,162

The Three Year Plan

Priority has been given to training under the Three-Year Plan in view of the vital necessity of trained personnel to the successful implementation of it. If the training programme is set up with no reference to the number of technicians needed, the danger is always there that the number of trained persons may be more or less than what is required. In the first eventuality, it will give rise to an unemployment problem. The second eventuality is far more obnoxious from the standpoint of the plan because it will 'back-date' the plan targets. To avoid both these dangers, it is essential that the number of technicians required for the implementation of the different programmes be set forth with as much accuracy as possible.

According to present estimates, the additional number of technicians and experts required is in the vicinity of 7,000 including 129 engineers, 360 overseers, 538 agricultural experts, 463 forestry experts, 190 health technicians, 2,900 primary and middle school teachers and 1,500 panchayat workers. Table XI below contains the details.

TABLE XI

Technicians for the Second Plan

Subject	Existing	Additional Requirements	To be available	
			By internal Training	By External Training
Engineering				
1. Civil	87	81	—	70
2. Mechanical	5	13	—	7
3. Electrical	12	16	—	12
4. Chemical	2	Unknown	—	5
5. Tele-Communication	1	2	—	—
6. Mining	7	6	—	6
7. Geology	8	11	—	9
8. Overseer	202	360	290	77
Agriculture				
9. Graduates	50	66	—	55
10. Diploma and J. T. A	214	352	382	—
11. Veterinary Doctors	6	30	—	26
12. Field Assistants and Fieldmen	36	62	90	—
Forests				
13. Forest Specialists	37	22	--	6
14. Rangers	52	62	50	—
15. Foresters	130	379	150	—

Health				
16. Medical Graduates	105	43	—	73
17. Nurses and Mid-wives	27	69	60	10
18. Health Workers	166	78	198	—
Education				
19. Primary Teachers	4,250	2,400	3,000	—
20. Secondary Teachers	215	500	700	—
Panchayat				
21. Workers		1,500	1,500	—

To meet these requirements low-grade technicians will be trained inside the Kingdom and persons will be sent abroad for high-grade training only. Some of the latter may not be able to return within the Plan period before completing their training courses. The trainees abroad, indicated in Table XI, are already receiving training and will be back within the Plan period. For want of statistics, no account has been taken of those who are expected back before the Planning period. If account is taken of this also, it is clear that the number of trained persons available to the Plan will be increased. Table XII below shows the number of persons to be trained inside the Kingdom on various subjects within the Plan period.

TABLE XII

Subject	Number
1. Agricultural Workers	470
2. Forest Technicians	200
3. Overseers and Draughtsmen	290
4. Mechanics	240

5. Health Workers	258
6. primary School Teachers	3,000
7. Vocational School Teachers	120
8. Co-operative Officers	180
9. Panchayat Workers (including refresher courses)	1,500
10. Cottage Industries	2,000

Besides, persons will be sent to India, the United States, Great Britain, Australia, Russia and other friendly countries for advanced courses on various subjects.

Within the Plan period the training programme of village workers, Co-operative Officers, agricultural assistants, forest workers and nurses will be up-grade and the capacity of the Engineering School will be increased. The Health Assistant School and the Civil Medical School will be merged to form a School of Public Health where Auxiliary Health Workers will be trained. A poli-technical, a technical institute and work-shop will also be established.

The training programme to be launched inside the country is given below.

1. Agriculture

Since 1953, that is, three years before the inauguration of the First Five Year Plan, the Village Development Department had been conducting tentative training programmes to meet the need of low-grade agricultural technicians. After the initiation of the Five-Year Plan, the Department of Agriculture took over the job and set up the School of Agriculture in 1956. It has been producing technical assistants and field men and organising refresher cources for those who have been trained.

By the end of the First Five-Year Plan it was responsible for training III Junior Technical assistants and 36 Field men. It also ran refresher courses for 154 trained personnel.

The Three Year Plan aims at converting this School into a College and up-grading its two-year course as an Intermediate Course in Agriculture of the Tribhuban University.

And it will be instrumental in training 300 Junior Technical Assistants, 30 Field Assistants, 60 Field Men and 65 others in special diploma course and will run refresher courses on horticulture, live-stock farming and agri-engineering et cetera. A hostel with accomodation for 200 students will also be arranged.

2. Forestry

Proper development and management of forests demands trained personnel, and production inside the country of trained rangers and foresters in requisite number is highly indispensable. For this purpose only one institution of its kind is in existence in the Kingdom. Started in 1947, this Institute of Forestry has had a chequered career. It was transferred to the Singha Durbar Secretariat compound in 1951 and remained closed for some years. It was re-opened in 1956 and was once again transferred to Hetauda in 1959, from where it was shifted to Bhimphedi for want of a building to house it. Within the First Five-Year Plan its output of rangers and foresters totalled 102. As only one institution of this kind has been deemed sufficient for the duration of the Second Plan as well, the forestry training programme will be exclusively confined to it, followed of course by the increment of its capacity according to need, which is to train 50 rangers and 150 foresters.

3. Engineering

Moved by the principle that training of such low-grade technicians like overseers, and draughtsmen needed for the implementation of development programmes should be arranged for inside the Kingdom, the School of Engineering was founded in Kathmandu in 1959. The School now gives training in overseering and draughtsmanship. It produced a total of 30 rangers and draughtsmen within two years.

With necessary expansion of its capacity it will be geare to train a greater number of overseer and draughtsmen apart from providing training facilities in electrical and mechanical courses. Accordingly, within the Second Plan period the School will train 100 civil overseers, 20 electrical and mechanical overseers, 20 draughtsmen and 40 sub-overseers. A technical work-shop will also be established to impart training to low-grade skilled workers particularly those connected with the maintenance and repair of wheeled vehicles, like tractors and trucks, and also wireless sets and water supply fittings and fixtures.

4. Health

Presently, there are arrangements for the training of two kinds of Health workers - Health Assistants in the Health Assistants' Training Institute and Compounders in the Civil Medical School. Prior to the founding of the Health Assistants' Training Institute, the one and only training facility was the Civil Medical School. It enjoyed a virtual monopoly until 1956 when its incapacity to meet the growing demand for health workers led to the setting up of the Health Assistants' Training Institute. As the existence side by side of these two institutions does not seem to be justified at present, they are to be amalgamated under a School of Public Health, which in course of time will be changed into a Medical School. The present School of Public Health is expected to maintain an output of 25 clinical assistants, 20 pharmacy assistants, 6 laboratory assistants and 15 sanitary assistants, a total of 66. Established in 1956, the Nurses Training School produced 23 graduate nurses within the First Five-Year Plan. The Three-Year Plan aims at producing 20 graduate nurses a year. Steps will also be taken to give permanence to this School.

5: Education

Normal School training, secondary school teachers' training and Multipurpose teachers' training are prominent among the training programmes relating to education.

Normal School - To spread primary education throughout the Kingdom and to improve comparatively the standard of education the need of trained teacher is obvious. Indeed, the successful implementatson of the education development project depends on the increased availibility of trained teachers. Trained teachers who know and understand the needs and circumstances of the nation are equally, if not more, necessary to evolve an educational system suited to the country. Where else but inside Kingdom itselt can such teachers be trained?

The establiihment of the Basic Teachers' Training Centre was the first step in the programme of training teachers. This Centre used to impart training to the teachers needed for the Basic Schools. There was no arrangement to train teachers needed for other primary schools. In view of this lacuna, the normal school was inaugurated in 1955 with a view to make available trained teachers to the primary schools and bringing about uniformity in the courses of study and educational methods in them. Before the launching of the First Five-Year Plan, 503 teachers had received training. During the Plan period 2,348 teachers were trained in 34 Centres. The Three-Year Plan aims at training 2,400 more teachers and arranging refresher courses for 600 teachers to bring the total to 3,000. For this purpose 39 new Centres will be opened in the different districts in addition to building houses for three Normal Schools.

At present more than 80 percent of the teachers on the staff of the primary schools are non-matriculates, which has no doubt lowered the quality of teaching. The Plan intends to wipe out this anomaly by a ten-year programme designed to enable them to passed the matriculation examination By the end of this Plan a Training Centre will be set up in each of the 14 zones, capable of training 40 teachers. Under this programme 1,040 primary teachers will get the opportunity to increase their qualifications.

College of Education — Established on the recommendations of the National Education Planning Commission, the College of Education owes its origin to the central purpose of raising the standard teaching in the secondary schools through trained teachers as in the primary schools. The College runs a four-year B.Ed. course for graduates. It also gives on-the-job training to secondary school teachers. During the First Five-Year Plan 48 candidates were awarded the B.Ed. degree and 200 secondary school teachers were given on-the-job training. It will increase its scope of activity still further in the Second Plan period to produce more trained teachers. Its total output within the next three years will be 700 B. Ed.'s and 1,200 trained teachers. A building will be erected on the Tribhuban University site, Kirtipur, to house the College.

Multi-purpose Teachers' Training

Vocational education can play a big part in making the existing educational system more practical and useful in life. In view of this, the Government has adopted the policy of introducing vocational subjects in the secondary schools in preparation for their final conversion into multi-purpose schools. To this end the first requirement is teachers trained in arts and crafts. Such teachers are in a minority in the Kingdom at the moment. The Plan, therefore, aims at setting up a Technical Institute capable of producing the requisite number of such teachers. The first year of the Plan will be occupied in constructing the building and collecting equipment. The third year will see it put into operation and 20 persons in agriculture, 20 in industries, 40 in home science and 40 in commerce — a total of 120 — will pass out of it.

6. Mining

Shortage of low-grade technicians has prevented the smooth progress of research and analysis of the country's minerals. But since 1960 when the Department of Mining started a training programme the position has improved. Within the Second Plan period 20 persons will be given training. According to an earlier schedule the training period was to last for two years only, which on second thoughts appeared too short. Now it will be carried over to the Second Plan period.

7. Panchayat

In a country like Nepal where the rural population is at an overwhelming majority, all-round development of the country is unthinkable until the villages are developed in the fields of education, health, agriculture, co-operatives, social education and the like. In addition, there is the need of trained village workers who will make them self-reliant by teaching them various methods to combat problems on their own. For this purpose 2 Rural Institutes — one in Kathmandu and the other in Rapti — and a Home Science Training Centre in Kathmandu have been established. Within the Second Plan period the combined result of these institutes will be to produce 1,120 trained village workers. Since the Panchayats are to take over the functions hitherto discharged by Development Blocks, it is obvious that the training imparted should conform with the Panchayat philosophy. It will be of two kinds — One is to run refresher courses, drawn up from the Panchayat point of view, for about 800 village workers who have already received training in the Rural Institutes and the Home Science Training Centre. The other is to train Panchayat officials on the management of the Panchayats and in the direction of development works to be undertaken by the Panchayats in different fields like agriculture, co-operatives, rural industries, minor canals etc. In addition Mobile Training Centres will be despatched from place to place and will train at least two members from each village Panchayat on the business methods of the Panchayats.

8. Co-operatives

The co-operative training centre has been functioning since 1960-61 in the Rural Institute, Kathmandu, and has so far trained 40 persons. The training programme will be continued in the Second Plan period. The course for the would-be co-operative inspectors will be divided into two parts—8 months of institutional training and 1 month of field training; while inspectors and sub-inspectors who are already employed will have a three-month on-the-job training. Otherwise the training period for the sub-inspectors and managers will last six months including a month of practical training. At the same time four-month training camps and seminars will be organised from time to time for the benefit of the managers of the co-operative institutions and societies.

9. Administrative Training

Competent administrative machinery is most essential for the successful implementation of the Plan. Its absence has hitherto reduced all plans to paper projects. Learning from this experience of the past, high priority has been given in the current Plan to the measures designed to improve the existing administrative structure. A Public Administration Institute will be opened to train service personnel, as it has been realised that administrative efficiency is to a large extent determined by the level of Training of Civil Servants.

The proposed Institute will give two types of training—general training to the fresh entrants and specialised training to those who are already in service. Lowranking employees will also be given training in accountancy, shorthand and type-writing et cetera.

An Accountants Training Project is already in operation, which aims at teaching modern methods of accountancy as part of the plan to improve the accounting system. This project will be maintained in the Second plan period as well. Eventually, it will enable the Government to adopt a modern system of budgeting, accounting and auditing.

Transport

Dynamic economic growth postulates full development of the means of transport. Its role is vital both to production and to distribution. Without it labour and raw materials cannot be carried to the production site nor can the finished products be brought to the market. Without it labour and capital so essential to the development of the different parts of the country lack mobility and the market will be paralysed. Politically also it has a significant part to play. Its value as a contributing factor to administrative efficiency, national unity and security is inestimable. The need of its development in a country like Nepal where traffic facilities are so limited can hardly be over-emphasised. Our country, being landlocked, has no scope for sea transport. And the greater part of the land surface is festooned with sky-high mountain ranges. It was in consideration of these facts that the Second Plan, like the First Five-Year Plan has accorded high-priority to the improvement and development of the means of transport.

An oceanic outlet being closed to Nepal, development can take place only as regards the following:

(a) Roadways (b) Ropeways (c) Railways and (d) Airways. Judged by the volume of traffic, there appears to be no need for the development of railways at present. Ropeways may appear to be the ideal means of transport in our mountainous land, but from the topographical and economic points of view it is appropriate to only certain specific places. Priority has, therefore, been given in the Second Plan to Airways as the quickest and easiest means and roadways as the cheapest, most permanent and easily accessible means. The road construction programme aims at building the East-West Highway, the arterial link between different parts of the country, and north-south roads, which are advantageous from an economic viewpoint. In the field of aviation the existing airports will be improved and developed and new airstrips will be constructed in the various parts of the country.

(a) Roadways

Roads are considered to be the most common means of transport, though for certain reasons its development is in a backward state in Nepal. Before the launching of the First Five-Year Plan, the total mileage of roads all over the Kingdom was 390, which included 228 miles of fair-weather roads. Most of these were confined to Kathmandu Valley and the flat-stretch of the Tarai. The mountainous region was unsuited for wheeled traffic, which meant that 83 per cent of the land and 70 per cent of the people were denied transport facilities.

On account of these various factors development of transport occupied a key place in the First Five-Year Plan. 31.5 per cent of the Plan outlay of Rs. 330 million or Rs. 104 million was ear-marked for the development of transport. This amount was of course not sufficient to meet the requirements of Nepal. For example, the country in those days stood in need of 4,000 miles of roads. The First Five-Year Plan contemplated fulfilling the need in the course of twenty years through four five year plans. Accordingly, it set for itself the target of building 300 miles of jeep tracks, 300 miles of full-width roads and 300 miles gravelled roads. This programme could not, however, be carried out effectively for want of money, technical equipment and organisational structure. Finally, in 1958 the Regional Transport Organisation was started as a sequel to the tripartite agreement between His Majesty's Government and the Governments of India and the United States. The job of building the aforesaid 900 miles of roads was entrusted to it. For the first two years of its existence it was busy assembling road-building equipment and technicians, and later put into effect the following eight projects designed to connect the hills and the Tarai; (the degree of progress is shown for each project).

TABLE XIII

Project Name	Total Length	Progress (in miles)		Total
		Jeep tracks	Full width	
1. Bhainse-Raxaul Road	46	—	46	46
2. Sunauli-Pokhara Road	114	50	23	73
3. Kathmandu-Janakpur Road	130	56	37	93
4. Kathmandu-Trishuli Road	43	—	43	43
5. Dhangadhi-Dadeldhura-Baitadi Road	150	20	16	36

6. Krishnanagar-Pyuthan Road	80	—	16	16
7. Nepalgunj-Surkhet Road	71	15	18	33
8. Dharan-Dhankuta-Bhojpur Road	93	7	—	7
Total	727	148	199	347

Apart from the above, the Roads Department and other construction institutions build 103 miles of roads on new alignments and renovated 188 miles of old streets. Thus, within the First Five-Year Plan period the mileage of roads, newly constructed and renovated, totalled 617 at a cost of Rs. 53.9 million in addition to labour gifts. At present, the Kingdom has altogether 790 miles of the Kunchha-Pokhara Road and the Mahendra Rajpath Kodari Road which are reported to have been damaged. The following is the break down.

10-feet Jeep Track	160 miles
Full-width Fair-weather Road	308 miles
Gravelled and Pitched All-weather Road	322 miles

Road Construction Programme Under the Second Plan

Consideration of the importance of roads in the Kingdom can lead but to the conclusion that the road-building programme should be handled with dynamism and executed with smoothness. To remove inactivity and inject enthusiatic efficiency some improvement in the existing organisation has become imperative. It also calls for a correct formulation of construction programmes and estimation of costs. Dispersal of limited resources on a wide area has not only halted the progress of certain specific roads but has also restricted the benefits that should have been derived from roads already built.

Like the First Five-Year Plan, the Second Plan also maintains the construction target of 4,000 miles of roads spread over twenty years as the basic requirement. For the time being, however, the Plan has, as a matter of policy, given priority to certain particular roads and has decided to concentrate all available resources on them. Under this scheme the construction of the East-West Highway, which is in the nature of a life-line to the Kingdom, and North-South Roads like the Kathmandu-Kodari, the Kathmandu-Janakpur and the Bhairawa-Pokhara Highways enjoy primacy. The programme of improving small road stretches of local importance will be kept up, while the construction of ungravelled roads (cutcha) between the villages will be carried out through the medium of panchayats.

Organisation for Road Construction

Changes in the organisation have appeared to be essential if progress is to be maintained in the road construction programme under the Three-Year Plan. Till now, the practice has been to construct roads under the aegis of the Regional Transport Organisation. Only the construction, maintenance and repair of minor roads were effected through the Roads Department of His Majesty's Government. The present arrangement has been deemed appropriate to the building of roads and bridges of local importance. But the existing Regional Transport organisation has been found to be very elaborate and expensive for the construction of major roads. Further, this Organisation has not proved itself able to achieve what it should have achieved. All things considered, His Majesty's Government has dissolved the

Regional Transport Organisation and entered into separate agreements with the aiding countries for the construction of various roads. A separate arrangement has been made for the East-West Highway, in the light of the conclusion that its construction through local efforts as much as possible has been deemed desirable. The panchayats have been entrusted with the building of ungravelled roads of local importance.

The Three-Year Plan aims at building 724 miles of fair-weather roads, converting 124 miles of Jeep tracks into all-weather roads and bituminising 42 miles of all weather roads. In addition, the Plan intends to lay pitch on 36 miles of roads, transforming 41 miles of fair weather roads into all-weather roads and in particular building 30, suspension bridges on rivers flowing through foot-tracks. To this end work will be undertaken on the following projects:-

1. East-West Highway

Stretched from east to west, the land surface of our country is divided into numerous segments by the Kosi, Gandaki, Karnali, Bagmati, Banganga, Rapti, Kamala, Kankai and other rivers flowing from North to South. This sort of topographical contigusation has rendered latitudinal traffic of men and materials fairly difficult in the absence of the East-West Highway which is to link all districts with one another and promote mutual contacts. The utility of this Highway will be more appreciated when the north-south roads will have connected the hills with the Tarai. It will then give an opportunity to the highlands of the East and the West to take full advantage of it.

The East-West Highway will run for 600 miles along the foot of the Chure Range. But in view of the limitations imposed by the paucity of available resources, technical competence and comparatively short period of 3 years the Plan aims at constructing 530 miles only of ungravelled, fair-weather road out of the 600 miles, of which the section between Narayangadh and Hetauda has already been completed Ferry boats will ply across the big rivers along the Highway. Future plans will include schemes to make the highway capable of handling traffic all the year round by the provision of permanent bridges. A high-level committee has been formed to direct the active co-operation of the local people in the construction of the highway. For this purpose the committee will create regional sub-committees.

2. Kathmandu-Kodari Road

This highway will pass through Banepa, Dhulikhel and Kodari to join the Tibetan border. Preliminary surveys are in the process of being conducted to find out the length and cost. At the moment it is thought that the road will be about 80 to 90 miles long. Our traditionally friendly country, China, is to aid in the construction of this Highway and the greater part of it is expected to be ready within the Plan period. When it is completed the Highway will facilitate traffic between Nepal and China and will strengthen and further develop the trade relations which have been in existence between two countries from ancient times. In connection it should prove a boon to the northern areas of the East No. 1 and East No. 2 districts providing opportunities for the exploitation of the physical resources of those areas and the mobilization of their man power. As this highway will run alongside in the talc deposit and the mica mines of East No. 1, it should enable the transportation of the minerals to be effected more easily.

The construction of roads which were formerly the responsibility of the Regional Transport Organisation will be continued in the light of the policy set out above. Only some roads receive concentration of resources in accordance with the policy stated above. It has been thought, however, that having regard to the importance of the districts involved and their relative potential for economic development the Kathmandu-Sindhuli-Janakpur and the Pokhara-Tansen-Bhairawa roads should be given priority completion of these two roads will give the country two important life lines. In addition the Kathmandu-Trisuli and the Bhainse-Raxaul will receive final touches.

3. Kathmandu-Janakpur Road

It has the intention to complete 34 miles of this road before the opening of the Second Plan. But the time table went away to such an extent that it has to be started from the scratch. Earth-work will now be done on about 10 miles between Bhaktapur and Kharpu, of which half the length will be pitched in addition to erecting a bridge over the Dapcha river and numerous other wooden bridges at various places along 34 miles beyond Bhaktapur. Similarly on the Janakpur side 2 heavy bridges, 3 causeways and a number of wooden bridges between the sixth and the twentieth miles will be constructed as well as the gravelling 12 miles of it. The existing 20 miles of road from the Dapcha end and 10 miles from the

Janakpur end, which is already jeepable, will be transformed into a full-width road. The remaining 40 miles will also be covered by full-width road to connect Kathmandu and Janakpur via Sindhuli. For this purpose a 400—foot bridge will span the Kosi river. Thus within the Plan period a full-width road will run between Kathmandu and Janakpur.

4. Sunauli-Pokhara Road

This project has now about 53 miles of jeep track, this will be broadened to full-width and equipped with wooden bridges and side drains and 50 miles more of jeep-worthy tracks will be laid out. From the Bhairahawa side 9 miles of the road will be tarred and a 250-foot bridge will be erected. Apart from 50 miles of jeep track, the remaining 76 miles of road between Pokhara and Bhairahawa will be converted into full-width road complete with heavy and wooden bridges, side-drains and cross-drains. The completion of this road will bring transport facilities within easy reach of 1,019,000 people inhabiting Majhkhand, Palpa, West No. 4 and West No. 3 districts, leading to the development of trade and commerce and economic exploitation of the natural resources.

5. Bhainse-Raxaul Road

Since 24 miles of this road between Amlekhgunj and Raxaul has been pitched to its full-width of 32 feet, the Second Plan aims at broadening and pitching the 22 miles of it between Bhainse and Raxaul, diverting the Chure tunnel and constructing several big and small bridges along the route. This road will facilitate transport of raw materials to and export of finished products from the Hetauda Saw Mill, the Cement Factory and the Hetauda Power Project and will extend the approaches of the Tribhuban Rajpath (highway) and the Kathmandu-Hetauda Ropeway. In other words, this road will be a vital link in the supply line to and from the Kathmandu Valley and the outlying areas like East No. 1 and Chisa Pani Garhi. It will also serve as the easiest approach-road to Kathmandu for those who live in the Tarai. The consequent rise in the volume of traffic on the Tribhuban Rajpath may increase the receipt from the road-cess to 2 or 2.50 million rupees a year as against the current receipt of Rs. 1.50 million. It will affect the earning of the Kathmandu-Hetauda Ropeway at the same ratio.

6. Kathmandu-Trishuli Road

The whole length of this road has been cut out to the full-width, but to maintain traffic round the year bridges have to be erected and repairs and improvements made in various places. At its present condition it is not fit for year round traffic, so the current Plan aims at doing all that is necessary to open it to regular traffic. With the completion of this road the difficulties said to have been created by lack of transport facilities to the implementation of the Trishuli Hydro-electricity Project, which was undertaken four or five years ago, will be removed. there should no longer be any bottleneck in transporting equipments to the Project-site. As a result, it will be put into commission soon enough to ease the power scarcity of Kathmandu. Along the road will pass the products of the celebrated fruit-gardens of Gankhar, Thansing and Trishuli to Kathmandu, while from Kathmandu finished goods will find their way to those places.

Apart from the chief projects mentioned above, some other road construction programmes will also be taken in hand in the Second Plan period. Most of these roads will be transversal and will intersect the East-West Highway at the foot of the Chure Range. When these roads are completed, they will establish convenient point of contact between the important places in the hills and the Tarai and will thus lend to greater commercial traffic and higher co-ordination and integration between the hill and the Tarai regions which differ so much in topography. Moreover, they will facilitate country-wide utilisation of the mineral deposits in the hills, the dense forests over spreading the inner Tarai and the foodgrains for which the Tarai is justly famous.

Road Improvements in the Kathmandu Valley

The Kathmandu Valley with the total area of 218 sq. miles used to have not more than 50 miles of ungravelled roads. Within the First Five-Year Plan 40 miles of the gravelled roads were tarred but the dirt roads were left as they were. According to the census of 1952-54, the number of persons using these roads was 410,995, which rose to 456,804 by the time census was taken in 1962. The increase in the volume of wheeled traffic has been far more impressive than that of the population. The contributing factors are the influx of the people from the outlying areas, the up-grading of the standard of living since the inception of the First Five-Year Plan and the popularity of the Tribhuban Rajpath. The number of private cars presently registered with the valley Superintendent of Police is 1,410, and 122 taxi-cars, totalling 2132. Since the volume of vehicular traffic will in the nature of things increase rather than decrease in the future, wisdom lies improving the roads and bridges in the valley with an eye to the future. Accordingly, the Three Year Plan aims at pitching 20 miles of ungravelled roads and gravelling 15 more miles apart from equipping it with bridges and culverts. The number of bridges to be constructed at various places in the Valley will be 13.

In the Tarai, Pitch will be laid on 16 miles of road and 26 miles will be gravelled and equipped with bridges and culverts wherever necessary. A remarkable change has come over the Tarai during the past ten years. Education and health facilities have improved the volume and variety of trade has increased along with the diversification and expansion of farm produce. In short, the standard of living of the Tarai dwellers has risen considerably with a consequent rise in vehicular traffic. Hence there is an ever-rising demand for more and more motorable roads. Almost similar is the case of the hills where arduous foot tracks and precarious bridges of local construction have to be quickly replaced by wider roads and dependable suspension bridges of modern construction. Within the Second Plan period 30 such bridges will be thrown over turbulent rivers at important traffic points.

Aviation

More than 80 percent of Nepal is mountainous, making surface transport a time-consuming and difficult proposition. The alternative lies in developing airways as a means of establishing quick contacts between the different parts of the country. It has also an invaluable role to play in the fields of general economic development, administration and national security. Unlike other means of transport, air service can be launched within a relatively short time and at less initial cost. Nepal has, however, entered the air age only recently. Prior to the inauguration of the First Five-Year Plan the chief airport in existence was the present Gaucher Airport fit for round-the-year traffic. It is 3,750 feet long and 40 feet broad. Other airports of the fair-weather variety were in Biratnagar, Simra, Pokhara and Bhairahawa.

Progress in the First Plan

Improvement of the existing airports and the construction of new airports in Raj Biraj, Janakpur, Bharatpur, Palung Tar, Dang, Nepalganj and Dhan Garhi were undertaken during the First Five-Year Plan. The Royal Nepal Airlines Corporation was established to run internal as well as external air services. The Corporation organised external services and maintained scheduled flights to three Indian cities, — Patna, Calcutta, and Delhi. The fleet was made up of 3 Dakotas and 2 Pilatus Porters, gifts of the United States and 1 Dakota given by India, and the internal and external flights were conducted with comparable efficiency. But owing to lack of terminal buildings, staff quarters and long-distance communication equipment, service to many parts of the country could not be maintained in all seasons. The internal net-work covered 588 miles as against the external coverage of 1,107 miles. In the year 1961-62 the flight hours totalled 4,091 accounting for the transport of 61,955 passengers and 3,218,513 pounds of freight.

Second Plan Targets

Transport needs demand improvements to existing airports and extension of air services to the hill regions chiefly to the district headquarters. Accordingly, 20 new air-strips and 3 fair-weather landing grounds will be constructed. Of the existing airports, II will be equipped with terminal buildings, staff quarters, passenger lounges and navigational and wireless aids. The remaining 3 where there are full traffic loads will have fire-fighting equipment. The Plan also aims at constructing a macadamised-cross runaway, 6,600 feet long and 150 feet wide. Five of the landing grounds that have to handle a full volume of traffic will be converted into metalled airports. The cost of these various operation is estimated at Rs. 25,000,000 or 3 to 4 per cent of the total Plan outlay. The following projects have been included in the Plan to fulfil this target:-

1. The Gauchar Airport

The Gaucher Airport is the aerial gateway to the Capital city, Kathmandu, and should be converted into an international airport. The primary need for this purpose is a run-way long and wide enough to accomodate super constellation and viscount planes. To this end the Plan envisages a cross run-way measuring 6,600 feet in length and 150 feet in width. Secondly, to meet the requirements of an international airport the existing facilities will be expanded to include a large warehouse, a power house, a transmitter hall and a fire station apart from adding an annex to the existing Terminal Building. A meteorological office will also be opened along with a staff-quarters, and equipment necessary for the introduction of the system of VHF Directional Radio Range will be installed. In addition, a hangar will be constructed to keep the internal service and Government planes.

2. Improvement of Existing Airports

Bearing in mind the politico-economic importance and the volume of traffic, the airports of the following places should be improved without delay. The proposed improvement programme includes conversion into all-weather air-fields, construction of terminal buildings and staff quarters, installation of safety devices and fire-fighting equipments.

Pokhara - Being an important town of the Western Hills and a main centre of the tourist attraction, it is highly essential to have its airport equipped with all facilities.

Bhairahawa — The airport here provides transport facilities to .6 million people inhabiting the Tarai districts in the near west and the district of Palpa in the hill. It should be kept open to traffic round the year and its location shifted to Dogarim, which lies between Bhairahawa and Butaul.

Janakpur — It is not only a leading town of the Mahcttari district with a population of .6 million but also a point of convergence of the trade routes of the greater part of the eastern Tarai and as such it is in the fitness of things that the airport here should be able to handle passengers and cargo throughout the year.

Nepalganj is the principal town of the far western Tarai and lies on the route of the international air service between Kathmandu and Delhi, and as such it should be converted into an all-season airport.

Simra — The international air service between Kathmandu and Patna passes over this point and the area around it has high economic potentials. The conversion of the existing airport here into an all-weather one would be a good investment.

Rajbiraj is the head-quarters of the Saptari district which has a population of .5 million and hence the airport here should be metalled to keep the wire of communication open in all seasons.

Biratnagar — The industrial town of Nepal lies on the route of the international service between Kathmandu and Calcutta. The volume of traffic here has increased to such an extent in recent times that it more than justifies the cost involved in keeping it open to traffic at all times of the year.

The airport in Dang, Dhan Garhi and Palung Tar, which provide transport facilities for more than .1 million people each, will be equipped with terminal buildings control towers and navigational aids for the convenience of the pilots. The airport, in Bharatpur will also be treated in the same fashion with a view to extending transport facilities to about .2 million people living in and around Rapti.

3. New Airports

Within the Plan period ungravelled, fair-weather air-strips will be constructed for the convenience of the people of Jhapa, Surkhet, Dailekh and Jumla with population figures of 119,752; 40,000 and 184,411 respectively. Of these three air-strips the one in Jumla will break the isolation of this remote hill district out off by insurmountable natural barriers. The Plan also provides for the construction of small landing strips or stolls measuring from 300 to 500 feet in length. These stolls will easily the permit landing and take-off of Pilatus Porter type planes. We have now two Pilatus Porters received under the United States aid, soon the fleet will rise to five when three similar planes are delivered by China under a recent agreement. These planes will thus serve the transport needs of such of the district head-quarters of the hill and Tarai regions where owing to geographical limitations no Dakota can land or take-off. The stolls to be constructed now in the Tarai areas may be expanded later on to accomodate bigger planes when the volume of traffic justifies it. The Three-Year Plan aims at constructing 20 such stolls.

Railway Development

The Second Plan does not include any new railway projects. All that it intends to do is procure certain equipments needed for the completion of the construction of some bridges and culverts along the railway lines. The 29-mile long Amlekhgunj-Raxaul narrow-gauge railway, which passes through the forest belt known as Char Kose Jhari (Eight-mile Bush) on the plains of the Tarai, was laid out in 1927 and the Janakpur-Jayanagar narrow-gauge railway was built ten years later in 1937. At present both of these railways are in a pitiable condition for want of proper upkeep and repairs. During the First Five-Year Plan a survey was conducted to change the Amlekhganj-Raxaul railway into metre-gauge and extend it up to Hetauda. The survey-report stated that the project would involve — heavy cost and the benefits to accrue from it would be far less in proportion, so the project was shelved.

The old locomotives of the Janakpur-Jayanagar Railway are in poor shape, yet in the year 1960-61 alone it handled 197,227 passengers and 293,393 maunds of cargo, grossing an income of Rs. 400,000. The Bijulpura branch (16 miles) of the Janakpur-Jayanagar Railway, which had remained out of commission for want of bridges and culverts, has been in operation since March, 1960 on a seasonal basis only due to lack of all-weather bridges and culverts. Within the Second Plan period all weather bridges and culverts, under construction now, will be completed and 2 locomotives replacements, carriages and wagons, and work-shop materials will be procured.

Ropeway Development

From the financial point of view ropeway is perhaps the best method of transportation for mountainous countries. A ropeway has been in operation since 1932 between Kathmandu and Dhursing, a distance of 16 miles, to transport goods from India or in transit through India. The ropeway had a capacity of 8 tons an hour, which has now dropped to 4 or 5 tons for want of proper maintenance and timely repairs at a time when Kathmandu needs a supply of 25 tons a day. Consequently, a scheme was taken in hand to replace it by a new line running from Hetauda to Kathmandu with a capacity of 15 tons an hour. This new ropeway is now in an advanced stage of completion. The construction of a work-shop staff quarters and warehouses at various points along the route has also been started and is expected to be ready by the end of The Second Plan. The ropeway will then be ready to be put into commission as a State undertaking. It will be able to maintain a steady flow of goods traffic into Kathmandu and the surrounding places and should exercise a salubrious influence on inflationary tendencies.

When the new ropeway comes into operation, the old one will go out of commission. Rather than keep it idle, arrangement will be made to find an alternative use either in the Dharan-Dhankuta or Narayan Garh-Bandipur section, on the basis of a technical and economic survey which will be completed in the near future.

Communication

The postal system was introduced in Nepal in 1875 and a telephone service was started about 30 years ago. But since industry, commerce and education were undeveloped in those days, communication facilities; did not make such progress. The necessities of administration and security were the sole determinants and they were fulfilled by installation of about 100 post offices and 600 miles of telpehone lines divided into 29 trunk-line stations from east to west. Lake of proper facilities for postal service and competent maintenance soon told on the quality of the service and wireless communication stations had to be opened some twelve years ago supplement the postal and telephonic services and 30 wireless stations were set up at impotant points in the Kingdom.

Following the Revolution of 1950-51, the attention of the Government and the people was centred on development programmes. But this 'development-mindedness', a plant of recent growth, could not attain immediate maturity due to want of organisation and direction. It had to wait till 1956 to find expression in the First Five-Year Plan. By that time the claims of the means of communication to development had been widely appreciated and, although no remarkable progress was made in the telephone and wireless communication systems, the postal service was augmented by the addition of 24 branch post offices to bring the total to 124. Thus before the inauguration of the First Five Year Plan each post office had to serve on the average 68,540 people spread over 444 sq. miles.

Progress under the First Plan

The First Plan set the target of opening 100 additional post offices and organising the telephone and wireless services on a better footing within five years. It also aimed at training staff as part of the measure to improve the communication structure and giving universal currency to the Nepalese postal stamps. The first few years did not produce any results chiefly on account of organisational and financial deficiencies, but following the admission to the membership of the Universal Postal Union, improvements in the postal system and the extention of post offices became increasingly more urgent. As a result, in the two-year period between 1960 and 1962, 54 branch post offices and 37 ordinary post offices and 194 Co-operative post offices were opened.

Mere multiplication of post offices would not serve the purpose unless the postal routes were re-aligned in such a way that delivery of postal matters did not involve an undue loss of time. Most of the postal routes passed through the hills. Even the postal communications between the Tarai districts had to go over the hills and come back. This triangular route involved a journey of 5 or 6 days where it ought to have taken not more than 2 days. Hence, there has a need for the drastic shortening of these routes. Within the First Plan period two new lines were laid out. The Bhaktapur-Shergunj line has shortened the route to a number of eastern and western Tarai districts, while by the expansion of the line passing through Dhan Garhi and Doti postal matters addressed to Sil Garhi (Doti) are delivered within days, not weeks as heretofore.

An air sorting office has been set up at the Gaucher airport and 7 control offices have been opened in each of the seven zones into which the country has been divided for postal purposes. A philatelic bureau has also been brought into being. Some of these measures are designed to accelerate the postal service, while others are calculated to promote efficiency and increase revenue. Thus a total of 413 post offices opened before or since the launching of the Plan has been serving the country with all possible efficiency and promptness. Each post office looks after the needs of 22,252 people spread over a radius of 131 sq. miles.

Telephone and Wireless

The First Five-Year Plan marks an important landmark in the development and imporvement of communication by telephone and wireless. Telephone services have been extended to the whole of the Kathmandu Valley and the wireless connections have been spread all over the Kingdom. An automatic telephone exchange with the capacity to handle a maximum of 3,000 connections has been put in operation. So far 1,120 lines including 120 lines in the Singha Durbar Secretariat have been issued. The automatic exchange is housed in a building constructed near Dharahara Tower in Kathmandu.

Of the 28 wireless centres in operation before the beginning of the First Five-Year Plan, the installation of modern equipment in 10 such centres which lacked them and the construction of area control stations in Kathmandu, Jaleswar, Biratnagar, Pokhara, Bhairahawa, Nepalganj, and Dhan Garhi are in process of completion. It may be recalled that the Kingdom has been divided into 7 zones for purposes of wireless communication as well as for postal communication. Under these seven area control stations fifty sub-stations are being set up in the following places:-

1. Kathmandu Area Control Station — Bhaaktpur, Dhulikhel, Choutara, Trishuli, Bharatpur, Makwanpur, Bhikna Thori, Hetauda and Birgunj.
2. Jaleshwar Area Control Station — Gour, Sindhuli Garhi, Ramechhap, Okhaldhunga, and Udayapur Garhi.
3. Biratnagar Area Control Station — Raj Biraj, Bhojpur, Chainpur, Dhankuta, Taplejung, Terhathum, Ilam and Bhadrapur.
4. Pokhara Area Control Station — Gorakha, Bandipur, Syangja, Baglung and Mustang.
5. Bhairahawa Area Control Station — Tribeni Ghat, Parasi, Butaul, Palpa, Gulmi, Pyuthan, Taulihawa, Bahadurgunj and Koilabas.
6. Nepalgunj Area Control Station — Dang, Salyan, Jumla, Dailekh, Surkhet and Bardia.
7. Dhan Garhi Area Control Station — Kailali, Rajapur, Ridhi Kot, Sil Garhi, Doti, Dadeldhura, Darpur, Ridhi Kot, chula, Baitadi and Brahmadev Mandi.

Postal Development: The attention of the Second Plan will be centered on consolidation and improvement of the existing post offices rather than the multiplication of numbers, as an adequate number of post offices have been opened during the First Five-Year Plan. The following projects have been included in the Plan to this end:-Branch post offices will be set up in 26 places including the zonal and such of the development district headquarters where there are no post offices at the moment. Extension will be made on 15 postal lines and some of them will be routed to link up such parts of the country where none of these line pass through and secure express delivery of postal matters through a process of rationalisation. Arrangements will be completed to transmit postal orders, money orders, international insurance and post parcels. A stock depot will also be instituted to store and make available equipments needed to keep the postal services running smoothly. Meanwhile, a training centre will be set up in Kathmandu to impart training to 14 inspector cum instructors. They in their turn will go to their respective areas and train the area postal workers under the supervision of the Area Controller This programme will to a large extent help make up the present shortage of trained staff. Within the Plan period construction of buildings to house the General Post Office in Kathmandu, subsidiary post offices elsewhere and stock depots will be completed. The development of the philatelic bureau will receive the closest possible attention, since this is the most appropriate agency to promote the export of postage stamps and thus add substantially to the revenue of the post offices. It may even help make the postal service self-supporting.

Telephone and Wireless Development

The first year of the Second Plan is expected to see the completion of the projects contemplated under the First Plan, an outline of which has been given above. It means that by the end of the first year the nation-wide wireless service will be functioning and there will be circuits in Delhi and Calcutta ready to run at international wireless service. It means that by that time the communication system of Nepal will have come of age and that it will be marked by maturity of service both in the domestic and international spheres.

During the Second Plan period 600 additional telephonic connections will be issued. This extension will not add to the maintenance cost of the Automatic Exchange Office. But it is estimated to swell the receipt by Rs. 114,000 a year. At this rate the entire cost on installation will be reimbursed within six years. The 300-line C.B. telephone exchange, which the advent of the automatic exchange has been made redundone in Kathmandu, will be transferred to the industrial city of Biratnagar, where it will continue to yield a gross income of Rs 40,000 annually.

The tele-communication project under which the international circuits and area control stations are to go into operation provides only for the exchange of messages not the exchange of news, thus cutting out a main source of revenue a site causing inconvenience to the Government and the people. To remedy this, arrangements have been made for the installation of two Radio teleprinter sets, which are estimated to yield a lot annual receipts Rs.186,000.

Power

Power is a basic requirement for the development of industries, so much so that without adequate development of power resources industrialisation of any country is conceivable. Indeed, in the present age development of power is taken as a yard-stick of the development of the country as a whole. In the sphere of agriculture the use of electrical energy is helpful in increasing production and, as a consequence, the standard of living of the people. Apart from domestic uses and assistances in processing home produced commodities there are many domestic chores which electricity can perform to advantage. Inspiration can be derived from these sober facts by a country like Nepal where the water resources are in such abundance. Hence, the second Plan has assigned high priority to the development of power.

Nepal may or may not have the basic materials in sufficient quantity for the development of thermal power, but her water resources are so vast and extensive that they can play a dominant role as a source of hydro-electricity. We have in sufficient knowledge about the availability of coal, natural gas, petroleum and uranium, but no serious research is required to generate the idea that there is an immense possibility of hydro-electric power generation. The geographical features of Nepal are also eminently suited to the harnessing of this power. She has a number of fast-flowing perennial rivers and torrential cataracts, suggesting unlimited generation of electric power. At present we are not in a position to give a correct estimate of the power potential of the Kingdom, yet even a conservative speculation would place at 8,000,000 kilowatts.

The efforts made so far in this field do not even remotely compare with the immense possibilities provided by Nature. About 50 years ago a hydro-electricity generation centre was established in Pharping in the Kathmandu Valley followed by a second one at Sundarijal in 1906 to meet the growing power consumption of the Capital. The combined output of these two centres was 1400 kilowatts. The next chapte in the history of power development opened in 1955 when, hardpressed by the urgent demands of the Valley and unable to start another hydel project at short notice owing to lack of proper survey records and statistical data, a diesel plant was set up. It added 1,600 kilowatts of power to the existing supply. In other parts of the country, the establishment of hydel and diesel power plants producing a total of 1,860 kilowatts in Biratnagar and a thermal plant with a capacity of 235 kilowatts in Birganj represented a major break-through in each of the districts. It indicated that industrialisation had asserted its claims.

The First Five-Year Plan set the target of generating 20,000 kilowatts of energy by implementing the Trisuli, Thado Khola, Panauti, Seti, Tinau and other river projects. But these projects were launched without conducting proper surveys and estimating the cost that might be involved: with the result that some of them were never started while what others could show no mere those simple ground-works of no great significance. Meanwhile the electricity supply position in Kathmandu was rapidly falling behind the demand, leaving no alternative except to have resource to the project, included judiciously in the Plan, to generate 1,750 kilowatts of thermal power. Accordingly, diesel plants were established within the Plan period to generate 750 kilowatts, despite the fact that such expedients look unseemly in a country so rich in water resources. As a stop-gap arrangement, however, they had their justification, because implementation of big hydel projects demanded comprehensive and time-consuming surveys and huge investments of money and material.

Power Needs

Kathmandu Valley supply experience of more than 50 years ought to have given us a good idea of the possible demand for it. But owing to several reasons we are still much in the dark about it. On the basis of rough estimates the need may be put at 3,500 kilowatts over and above the existing supply. This estimate takes into account the improvement which will be made on the present supply and the additional demands which the errection of certain industries like the Industrial Estate, Machine Shop, Foundry, Saw Mill, and Leather works will create. It can be easily seen that in the very near future this rough estimate of supply will be far out stripped by ever-increasing demands.

Other Places: Birgunj, Hetauda, Biratnagar, Nepalgunj and similar other places in the Kingdom stand next to the Kathmandu Valley as important 'customers'. In view of the industrial development laid out for Birgunj, its demand may rise to 600 kilowatts by the end of the Plan period. Hetauda has no arrangement at present for the generation and distribution of electricity. But since it is situated in a strategic position from the industrial point of view, its demand for power in future may mount very high. Hetauda has been selected as the site for the establishment of a cement factory, textile mills, re-rolling mills and several more undertaking and as such it may well need about 4,500 kilowatts both for industrial and domestic purposes. Biratnagar will also have to be provided with 3,000 kilowatts of additional power, if the demands of the existing and prospective industries are to be met. Nepalgunj already has a sizeable urban population pinched by lack of electricity and when we add to it the need of the paper mill which is to be opened here, the power demand may be more not less than 2,500 kilowatts. Table XIII below gives the existing supply position and the estimated requirements by the end of the Second Plan:

TABLE XIII

Place	Existing Supply	Future Requirement
Kathmandu Valley	4,750 k/wts	3,500 k/wts.
Hetauda	—	4,500 "
Birgunj	216 "	600 "
Nepalganj	—	2,500 "
Biratnagar	4,860 "	3,000 "

The actual production capacity should of course be a little more than the estimated requirement to make up for the disturbances that may effect the one or the other of the generating plants. Similarly, transmission lines may also at times break down, causing interruption of power supply.

Power Programme in The Second Plan

Top priority has been accorded to power development in the Second Plan, which conforms with its principal objective which is to create the basic ‘overheads’ for future plans. A sum of Rs. 91,000,000, which constitutes 15 per cent of the Plan outlay, as against 9 per cent in the First Plan has been ear-marked for this purpose. This amount does not include the development of power in the private sector which may result from loans made available by the Nepal Industrial Development Corporation.

Apart from completing the projects currently under implementation, the Second Plan will initiate certain new projects to fulfil the target of producing 22,000 kilowatts of additional power. With the same end in view the existing transmission lines will be improved and 200 miles of new lines will be laid out.

The total available power supply in the Kathmandu Valley is 4,750 kilowatts, which is short of the current demand by more than 3,500 kilowatts. Since hydel projects require long periods of gestation, installation of more diesel plants appears to be the only remedy until the Trisuli, Panauti and other long-range projects materialise. Within the Second Plan period Kathmandu will have two more diesel units producing 1,470 kilowatts each. Installation works will open with the Second Plan and will be completed when it is half way through. When the hydel projects are ready to take over the job, the diesel plants will be transferred to other parts of the Kingdom. The diesel plants, after all, are nothing but stop-gap arrangements.

Panauti Project

Included in the First Plan, this project remained unimplemented in actual fact for various reasons. And it is carried over to the Second Plan by increasing its capacity to 2,400 kilowatts as against 500 kilowatts estimated by the framers of the First Plan. Aided by the Soviet government, it is expected to be completed within the Second Plan period. The power generated by it will be distributed through 12 miles of 33 k/v and 12 miles of 11 k v transmission lines.

Of the 4,750 kilowatts of electricity currently generate in the Kathmandu Valley, the actual supply available to the customers is 3,100 kilowatts, representing a 'line loss' of 30 per cent occasioned by the old, well-worn distribution lines. The existing distribution system is being renovated and put into a single grid to stop such leakages and make it able to bear additional loads resulting from the implementation of new projects. This process will be completed within the Plan period to coincide with the commissioning of the Panauti and Trisuli projects. Under this scheme 7 sub-stations capable of handling 11,000/3,300 volts will be erected and 40 miles of 11,000 volts, 40 miles of 3,300 volts and 25 miles of 380/220 volts will be erected. The renovation of the distribution lines is not in itself productive of any power, but it adds to the effective use of power by counter-acting 'line loss' and preventing power pilferage.

Old power plants of the Kathmandu Valley, such as Sundarijal and Pharping Hydel and Tundikhel Diesel plants, produce electric current of 60 cycles whereas the new production centres and the Trishuli and Panauti projects under construction are to have a frequency of 50 cycles, as in Birgunj and Biratnagar. To remove this discrepancy a scheme is being implemented to convert the old power plants of the Kathmandu Valley to a frequency of 50 cycles. Work in this connection has already started and is expected to end by the first year of the Second Plan, which will facilitate the creation of a national grid in future since the frequency of power supply in the neighbouring countries is also of 50 cycles, power exchange can take place on an international basis.

Hetaunda

Lying in the middle of the Tribhuban Rajpath, which joins Kathmandu with the outside world, Hetauda has great potentials for development into an advanced industrial city. The pre-disposing factors are transport facilities and availability of industrial raw materials. In the near future it will have a cement factory, a textile mill, a saw mill and an industrial estate, needing a power supply of 4,500 kilowatts of electricity. The present plan is to set up diesel plants to meet the requirement, though the area is endowed with rich water resources. The execution of hydel projects has to be preceded by long periods of survey and until those have been undertaken industrial development will have to wait. As this is not desirable when the need of the hour is for quick industrialisation, we have to fall back on a diesel plant erection project to produce a total of 4,470 kilowatts from 3 units. This project will supply electricity to the proposed industries apart from meeting domestic consumptions in Hetauda, Amlekhganj and Bhainse.

Biratnagar

The great importance of Biratnagar as a seat of industry has been realised long since. It is the only place where some modern industries are in existence. The advantages it enjoys in respect of transport facilities and raw material production can easily lead to the conclusion that it is destined to have larger industries in the near future, but the existing power supply of 4,360 kilowatts does not even suffice to meet current demand. Provision should, therefore, be made for additional supplies, bearing in mind the new industries that are to open. From rough estimates it seems that the additional power should be of the order of 3,000 kilowatts and to fulfil this requirement the Second Plan intends to make available to the private sector financial loans and technical assistance through the Nepal Industrial Development Corporation in order to help install power plants capable of generating 3,000 kilowatts.

Birganj

The Birgunj Electric Supply Corporation was set up in 1959 to produce and distribute power in Birgunj. But lack of proper management prevented the Corporation from effecting a good distribution so that it could do little to aid the growth of industries in the area. The remedy appeared to lie in nationalising the undertaking—a step which was put into operation in 1961. Since then the power supply has been maintained in a satisfactory manner. As the existing production of 600 kilowatts has been found to be far below current demands, it became essential to take steps to increase the supply. To in the Second Plan a project to erect more diesel plants to generate an additional 500 kilowatts has been included. The distribution system will also be improved within the Plan period.

Nepalganj

Nepalgunj is to be the site of a number of industries including a paper mill to be established with the help of Chinese aid. To supply power for these industries provision will be made to set up a diesel power plant capable of generating 2,500 kilowatts of energy. The power thus generated will be supplied for industrial as well as domestic purposes.

Trishuli Project

This Hydel Project on the Trishuli river in West No. 1 is being implemented under the Indian aid programme. In its first stage it will produce 9.000 kilowatts of electric power, which will later rise to 18,000 kilowatts. The Trishuli Hydel Project was to have been executed within the First Five-Year Plan, but owing to several difficulties it did not make any appreciable headway. As the Kathmandu-Trishuli Road is now almost complete it is hoped that the Project will proceed smoothly and will be completed within the Second Plan period according to schedule with the completion of this Project the requirements of not only the Kathmandu Valley but of Hetauda Birgunj as well will be fulfilled.

Meanwhile, in Pokhara a hydel project with a capacity of 5,000 kilowatts is being erected in response to the needs of the local people. Estimated to be ready by the beginning of the Three Year Plan, this project will be able to meet domestic needs as well as the demands of some small industries. It should be a assist in the development of the tourist industry in the Pokhara Valley.

Kathmandu-Birganj 66 k/v Line

If the power to be generated within the Second Plan period by the Trisuli Hydel Project and the Hitauda Diesel Plant Project et cetera is to be used effectively and economically, a single grid should be created for the transmission of power from one place to another. To this end, the scheme of erecting a 66 k/v transmission line between Kathmandu-Birgunj via Hetauda has been planned. This transmission line will reduce the running cost of the diesel plants and it will render possible the transmission of power from Hetauda to Kathmandu until such time as the Trisuli Project is not completed. Later when the Project is completed power will be transmitted to Hetauda from Kathmandu via this line.

Micro-Plant

Apart from the Kathmandu Valley, Birgunj and Biratnagar are the only places in the whole of the Kingdom where electricity is available. A programme of micro-plants has been incorporated in the Second Plan with a view to harnessing small water resources for the supply of power to villages and townships nearby. Under this project small diesel plants will also be installed, numbering four in all with the maximum capacity of 1,000 kwts each a similar number of water turbines will have capacities ranging from 25 to 30 kilowatts. These micro-plants will make available electric power to 8 important district headquarters.

Thado Khola Project

Survey work relating to the generation of power from Thado Khola river flowing by the village of Markhu south-west of the Kathmandu Valley, was completed in 1961. Construction work on this project will begin in the beginning of the Second Plan and is expected to be completed in the second year. The 350 kilowatts of power which it is expected to produce, will be supplied to the new Hetauda-Kathmandu ropeway and the villages in an about Markhu.

Centre Organisation

When these new projects are implemented, improvement in the management of the electricity production centre and in the distribution system will become essential. The existing arrangements cannot be conducive to smooth generation and distribution of electric power. Accordingly, scientific improvements and necessary expansion will be made in the administrative, technical and accounts sections of the Department of Electricity. A workshop will be established in the precincts of the Central Office. Pursuant to the policy of His Majesty's Government to run public enterprises as autonomous corporations, the management of the electricity supply in the Kathmandu Valley will be entrusted to an autonomous public corportation. The setting-up of such a corporation will lead to proper distribution of electricity, and, as it develops into a self-supporting unit, the charge on the Government revenue should be lessened proportionately.

Irrigation

Irrigation is an important factor contributing to the permanent rise in agricultural productivity and in the variety of produce. Yet, for want of adequate irrigation facilities, agriculture, the chief occupation of the majority of the people, has to depend on the whims of Nature. For six months of the year the land remains barren just because there is no water to be had. It does not matter whether the soil is rich or whether the farmers are willing to work. Optimum use of land is only possible through irrigation, and the advanteges to be derived from it are usually far in excess of the cost involved.

Of the 56,000 sq. miles of the territory of Nepal about 55.6 million acres are estimated to be under cultivation with 24.6 million of this figure in the Tarai. .5 million in the inner Tarai and 2.6 million in the hills. Except for small areas, the land yields only one crop a year due to lack of irrigation facilities. So total production bears a miserable ratio to the territorial extent of the Kingdom. The growing population demands a higher degree of agricultural output to fulfil the food requirements. In the course of the decade between 1952 and 1962 the population has grown from 8.2 to 9.3 million—an increase of 1.1 million. If we place the food requirement of each individual on average at 8 maunds, we have to step up the production of food grains by 9 million maunds a year. In effect this means that we have to lay stress on irrigation programme and execute it on a priority basis.

Water can be had for irrigation from the perennial flow of the snow-fed rivers like Kosi, Gandaki, Karnali and their tributaries. Besides, there are the Mechi, the Konkoi, the Kamala, the Bagmati, the Banaganga, the Rapti and the Kali Rivers with their homes in the Mahabharata range, and hundreds of lesser streams flowing from the Chure Range. No statistical information is available on the actual quantity of water from these different sources. It would not, however, be completely wide of the mark to think that they discharge about 168 million acre-feet of water per annum. Utilisation of even a small fraction of this amounts, say 11.2 million, will be more than sufficient to irrigate the entire cultivable land. To provide irrrigation facilities water reservoirs may have to be constructed in some places and lift-irrigation resorted to in others. These are expensive methods, which are properly best life severely alone for the time being. For the present diversion of water through the construction of dams will suffice.

History of Irrigation

From time immemorial our farmers, acting alone or in company, have been known to make deligent efforts to bring water the land by cutting open-canals from the river banks. But such efforts have never succeeded except when the river in question was small brook or stream.

At the first assult of the flood waters of the big rivers a mud-built dam will be broken beyond redemption or timely repair. The canals, constructed by rule-of-thumb methods, tended to over-steep inclines and to be full of unnecessary twists and turns.

The first attempt at scientific provision of irrigation facilities was made in Saptary in 1924. The Chandra Canal issuing from a dam built across the Trijuga river covered a gross area of 50,000 acres. In about the same year detailed survey reports were presented on the construction of the Banaganga Canal in Palimajhkhanda, the Jhanj Canal in Rauthat and the Jalad Canal in Mohotari. But no action was taken on them. Development of irrigation suffered a complete eclipse until 1946 when the Juddha Canal was built in Rauthat to tap the water of the Manusmara river. It was estimated to reach about 2,000 acres of land. With the exception of a certain amount of work done on the construction of the Parthi Dam in Pokhara and the Jagadishpur reservoir in Taulihawa, nothing more was done in the field of irrigation through scientific projects before the advent of the Revolution of 1950-51.

A co-ordinated programme of irrigation projects was included for the first time in the Five-Year Plan (1956-1961). The Plan target was to irrigate 275,000 acres of land at a cost of Rs. 2,000,000. Of the projects completed within the Plan period mention may be made of the Tikabhairab Canal, the Mahadavkhola Canal and the Bagmati Canal in the Kathmandu Valley, the Fewa Dam and the Vijayapur Canal in Pokhata, the Jhanj Canal in Rauthat, and the Sirsiya Canal, the Dudhaura

Canal and the Tilawe Canal in Bara Parsa. There were several more projects under construction within the Plan period, reference to which will be made later.

Before the opening of the First Five-Year Plan irrigation facilities were available to 62,000 crores, to which 65,200 acres were added by the various projects executed within the Five-Year period, bringing the total to 127,200 acres.

The Second Plan

Nature has deereed that the Tarai as the most suitable place for the extensive development of agriculture. It is the main supplier to the deficit areas in the hills nearby and exporter of foodgrains and cash crops to the Indian market. It is for these reasons the Tarai region has been given first priority in irrigation projects. On the basis of the experience gained during the previous Plan, a larger number of major projects has been included in this Plan along with minor irrigation projects, which can be implemented easily and at less cost and which start producing results almost immedietely.

As has been stated above, our farmers have been irrigating their fields by means of canals dug out from ponds, tanks, streams and rivulets. Naturally when we think of developing irrigation, ways and means should be devised of improving these collective efforts. Minor projects have, therefore, been included with a view to improving the ponds et cetera that may or do serve as the source of water for such local irrigation enterprises In certain parts of the Tarai, particularly those bordering on the forests, there is no flowing water. Subterranean water is the only source that can be tapped. But it is a costly venture, requiring power-driven instruments. In any case, successful use of subterranean water is possible only where there is likelihood of artesian wells. And it would not be wise to do anything about it until a full geological study has been made.

The Three-Year Plan has set a target of bringing irrigation facilities to 105,000 acres of additional land with a view to stepping up production by 840,000 maunds. This excludes these projects which are expected to be started but not finished within the Plan period. The aforesaid programme has been allocated Rs. 40,000,000, which is 7 per cent of the total Plan outlay. If the additional foodgrain produced is valued at Rs. 20 per maund, it will increase the value of agricultural production by Rs.16.8 million a year. These do not include the minor irrigation projects which are to be implemented through the active co-operation of the local people.

The Second Plan aims at completing the following projects within the Plan period:—

TABLE XIV

Name and location of project	Area to be irrigated (in acres)	Estimated increase in produce (in maunds)
1. Tinau Project, (Palimajhkhand)	50,000	400,000
2. Hardinath Project, (Mahotary)	9,000	72,000
3. Dundua Project,(Banke)	9,000	72,000
4. Juddha Canal repair Project (Rauthat)	10,000	80,000
5. Khutti Project (Saptari)	9,000	72,000

6. Kodkhu Project (Kathmandu)	3,000	24,000
7. Godavari Project. (Kathmandu)	3,000	24,000
8. Bagmati Project (Kathmandu)	850	6,800
9. Bosan Project (Kathmandu)	1,500	12,000
10. Banepa Project (East No. 1)	3,500	28,000
11. Chandra Canal Renovation and Expansion Project (Saptari)	14,000	112,000
12. Kanchanpur Project (Taulihawa)	8,000	64,000
13. Bihul Project (Saptari)	8,000	64,000
14. Santoltar " (Palpa)	6,600	52,800
15. Miscellaneous	6,000	48,000
Total :	141,450	1,131,600

The following projects will be started within the Plan period and be completed in the Third plan:

TABLE XV

Name and location of the project	Area to be irrigated (in acres)	Estimated rise in produce (in maunds)
1. Kamala Project (Mahotari)	140,000	1,120,000
2. Rapti " (Rapti)	80,000	640,000
3. Chepe " (West No. 2)	16,000	128,000
4. Banaganga Project (Taulihawa)	unknown	until survey
5. Babai Project (Banke)	"	"
Total :	236,000	1,888,000

Administrative Organisation

Efficient and economic conduct of irrigation works calls for a competent administrative organisation. Since irrigation adds to the national production and directly increases the national revenue, irrigation can be turned into a self supporting unit. Indeed, it has been proposed that the irrigation authority be organised as an autonomous public enterprise. An autonomous board will be constituted to manage irrigation in place of the Present Government department. It will be largely independent in constructing new canals, maintaining existing canals and carrying out day-to-day administration. It will also be empowered to raise loans to meet expenses. This arrangement, however, will be possiple only as part of the plan and programme of His Majesty's Government in relation to irrigation. The main objective of the proposed autonomous body will be to meet expenses out of its own incomes. In the beginning it may have to had subsidies from the Government but in the course of time it will create its own funds to undertake new construction. This system can be created for each irrigation project separately or as part of an over all autonomous authority.

The implementation of the above projects will enhance the State revenue by Rs. 420,000 annually in the form of irrigation dues. But when Rs.315,000 is set aside as maintenance cost the net income will be Rs. 105,000 which is extremely low in comparison with the benefits to accrue from irrigation. For the further extension of irrigation facilities such an amount would be negligible. Compared with India, where the tax is imposed at an average rate of Rs. 16 per acre, our tax rate, which comes to about Rs. 4 per acre on the average, is very much less. Further, Nepal has no progressive taxes as in India. These considerations point to the necessity of the upward revision of irrigation dues if the irrigation facilities are to be augmented and dependence on the foreign aid for development works is to be scaled down. In order that its incidence on the peasants may be evenly distributed, the tax structure should be scientific.

Co-ordination of irrigation with agricultural development is the surest guarantee for maximum benefit. Provision of irrigation facilities should be phased with the distribution of improved seeds and chemical fertilizers, and the introduction of plant-protection measures. It should also be co-ordinated with minor irrigation projects in such areas where they are either in existence or under construction. It is also vitally important that the water made available by irrigation projects be utilised economically.

Agriculture

Agricultural development has a vital role to play in the improvement of the standard of living of the people in a country like Nepal where more than 90 per cent of the population lives on agriculture. But in a backward country the agricultural problem is not easy of solution. In the first place, it is intimately linked with structural questions like the land reforms and the co-operative movement. Events in these spheres have a vital bearing on the economic well being of the peasantry. Secondly, its relation with live-stock farming is so close that development in one is unthinkable except in terms of the development of the other, because cattle are the capital wealth of the farmers. Thirdly, for the sale of food-grains and procurement of chemical fertilizers agriculture has to lean on industrial development. Fourthly, agriculture cannot do without such basic 'infra-structure' as transport, communication and power if advances in production and marketing of the farm produce are to keep pace with modern conditions. Finally, agriculture is also closely related to forestry from a long-range view point.

The Second Plan aims at introducing reforms in the land system as part of the programme to bring about basic changes in agriculture. To this end the Plan has included measures to create a competent Land Administration Organisation, to keep up land records, to conduct cadastral survey, to make available agricultural credit and the rest of it. Meanwhile, village panchayats have been organised to associate the people directly with the administration and to secure the active co-operation of the people in the development works. There can be no two opinions that the panchayat system will safeguard the interests of the peasants, who constitute the bulk of the population. Looked at in isolation agricultural production depends chiefly on irrigation, improved seeds, advanced implements, crop protection measures, rich fertilizers and manures, improved farm techniques and so on. It is estimated that presently more than 8 million people live off 6 million acres of land. It means that the per capita area of land is very much less. It means, in other words, that enhancement of the productivity of land is essential to the well-being peasants. For that purpose the things stated above should be included in the agricultural programme, in addition to the development of live-stock and of such industries as are based on cattle produce.

From the long-term stand-point of agricultural development the three natural divisions of the Kingdom have three distinct uses: the high-altitude Himalayan region in the north is ideally suited to live stock and pastoral development, the midland hills and valleys favour fruit-growing, while the flat, alluvial plains of Tarai, richly endowed by Nature, can develop into a well-stocked granary. Indeed, the main objective behind the present programme of agricultural development is to make a study of the type of crop, plant, manure, implement and live-stock etcetera best suited to the different climatic and other conditions prevailing in the Kingdom. Under this programme experimental farms will be started in appropriate places having climatic and soil conditions peculiarly their own. The findings of these farms will be conveyed to the peasants by exhibitions and encouragement through agricultural extension centres. Agricultural extension, in fact, is fundamental to this programme, and it features minor irrigation, plant protection and use of fertilisers.

The progress to date in the sphere of agricultural development is shown in Table XVI below:—

TABLE XVI

Subject	Number of Centres	Unit	Production
Food-grain Centres	10	pound	475,000
Fruit Improvement Centres	11	pound	200,000
Fishery Development Centres	6	number	243,000 fingerling fish
		pound	11,000
Live-stock centres	4	number	422
Poultry Farms	2	number	22,000 chicken 91,800 eggs
Milk Processing and Collecting Centres	6	pound	2,247,000
Cheese Factories	6	pound	95,900
Agricultural Extension Centres	5 (Zones)		
Plant Protection	1		
Home Science Laboratory	1		
Soil Analysis Centre	1		

In five places, namely, Rapti, Parwanipur, Jiri, Biratnagar, and Bhairahawa, all the existing centres are under a single administrative organisation to give each of them the form of a multi-purpose centre.

Besides food grain development, horticultiture, fishery and stock-farming will also be undertaken wherever suitable in these places. These multifarious activities come under one administrative structure and their simultanous development is highly desirable from the technical stand-point. These centres are engaged at the moment in developing better grades of paddy, wheat, maize, potato, sugar and oil seeds; apples, peaches, oranges and walnuts; and cattle, buffaloes, pigs and sheep. These centres have produced 364,000 pounds of milk and 1,300,000 pounds of ghee.

To derive to the full the benefit of stock farming 6 cheese factories, 5 milk collection centres, and 1 pasteurisation plant have been established to produce 1,883,000 pounds of milk, 95,000 pounds of cheese and cream, and 56,400 pounds of butter. Agricultural extension activities have chiefly been conducted through the Village Development Centres. Under this programme 7,900 pounds of wheat, 5,600 pounds of paddy, 4,700 pounds of maize, 2,000 pounds of potato, 8,300 pounds of fruit seedlings, 3,560 chickens, 41,400 G. T.B. vaccines, 7,100 ampoules of S. S. foul cholera vaccines and 1,700 pounds of fertilisers have been distributed. The vetenary section looks after the treatment of riderpert and anthrax and other diseases. Crop protection measures have been introduced in Kathmandu, Sarlahi and Dhunibesi. A soil survey has been completed in Rapti and a market survey has been conducted in Morang, Saptari and Jhapa regarding Jute and citrous fruit in Dharan.

Programme Under The Second Plan

The current agricultural activities will be carried over to the Second Plan period. But mere research and study of the better grades of seed, cattle and implements cannot lead to real benefit unless the findings are brought to the notice of the working farmers. It follows that the agricultural extension programme should be given the central place in the over-all agricultural development project. The Plan has further laid stress on such measures like crop protection, use of fertilisers and irrigation which do not require intense study. And to underline the impact of the different measures on the agricultural productivity, special stress will be given on the work of evaluation.

Lack of country-wide statistics on agriculture means that there is no yard-stick to measure the effect of agricultural development programmes on farm produce or the standard of living of the peasant. And since the results of the present agricultural survey are to be available by the Second Plan only, the targets of the agricultural development programmes are set forth in the form of investments, not nation-wide production. Table XVII below affords a summary statement of this programme under the Second Plan.

TABLE XVII

	Existing	Additional
Food-grain Development Centres	10	8
Pasture Development Centres	—	5
Fruit Cultivation Centres	11	14
Live-stock Improvement Centres	4	7
Poultry Farms (including breeding farms)	2	2

Fishery Development Centres	6	3
Milk Collection Centres	6	16
Milk Chilling Centres	—	2
Cheese Factories	6	13
Refinery (Milk and Ghee)	1	2
Agricultural Extension Centres	5 Zones	9 Zones
Veterinary Hospitals	11	21
Plant Protection Centres	1	6
Soil Analysis Centre	1	1
Artificial Insemination Centres	1	4
Orange Grading Centres	—	2

Production of some of the main items from these centres is estimated in table XVIII

TABLE XVIII

Food-grain (Seeds)	Pound	1,090,000
Industrial Crop (Seeds)	Pound	940,000
Vegetable Plants	number	1,262,000
Potato Seed	Pound	1, 00,000
Fruit Plants	number	200,000
Pigs	number	1,665
Calves	number	424
Lambs	number	711
Artificially (inseminated) Cows	number	40,000
Eggs	number	600,000
Chicken	number	120,000
Fingerlings	number	3,530,000
Fish	Pound	170,500
Milk (pasteurised)	2	9,111,000
Ghee	2	300,000
Cheese	2	91,000
Butter	2	123,300
Crop Protection	acre	44,000
Agricultural Implements	number	2,750 of 13 varieties

If the output of the centres mentioned above were to be distributed among the peasants and to be used by them in further propagation and it is expected that more than 160,000 maunds of grain, 1,600 implements, 1,875,000 pounds of fish and 7,200,000 eggs could be produced. Besides agricultural extension, fertilisers will be tried on the soil of Kathmandu, Parwanipur, Rapti, Pokhara, Dhankuta and other places. A market survey will be conducted of potatoes, ghee, rice, oil-seeds, sugar, tobacco and citrus fruits. The Home Science Centre will continue in operation. Given below is the section-wise account of the agricultural programme in detail.

Agronomy

Though predominantly agricultural, our traditional farming methods are much out-dated and fafm produce is much less than what it should or could be. Divided into three distinct and separate climatic zones of the Tarai the Midlands and the Himalayan region, the land surface, suited to food grain industrial crop and pasture land cultivation, is available in adequate quantities. If the limited land area is to support a growing population, the agricultural system will have to be changed by the introduction of improved techniques, use of mixed crops, rotation of crops, preparation of improved seeds, and provision of seed stocks et cetera. Over the past few years the Government has turned its attention to these matters and some work on these lines has already been taken in some sectors.

Before the inauguration of the First Five Year Plan two agronomy centres—one in the Singha Darbar centre specialised in paddy, maize, wheat and potatoes where the Parwanipur centre concentrated on paddy, wheat, sugarcane and vegetables. New centres in Rapti, Pokhara, Biratnagar, Jiri, Bhairahawa and Dhankuta were founded within the First Plan period. More such centres are in process of being set up in Ilam, Doti and Nepalgunj. These centres are engaged in controlling plant pests, propagating advanced cultivation methods, introducing crop rotation with particular reference to the crops favourable to the local climatic conditions, and introducing high class manures. In addition, they distribute and hold displays of the different types of paddy, maize, wheat, potato, sugar cane, vegetable and pasture grass.

Programme Under The Second Plan

During the First Five-Year Plan these centres had devoted their attention mainly to the cultivation of food crops. This will now be diversified to include cash crops and pasture lands. Accordingly, while the agronomy centres in Jiri, Kathmandu, Dhankuta, Ilam, Nepalgunj and Doti will devote their energies in food crops, those at Khurkot, Rapti, Parwanipur, Bhairahawa, Biratnagar and Janakpur will see to the production of cash crops such as jute, cotton, tobacco and oilseeds in addition to food crops. Jiri Rapti, Kathmandu, Chitlang and Pokhara centres will also be concerned with the development of pasture lands as well. Under this scheme the target is set at 342 acres of food crops, 220 acres of cash crops and 400 acres of pasture land.

Food Crop Cultivation: Since the propagation of improved seeds at the official level alone is not likely to produce the desired results, the Government intends to interest private individuals and institutions in handling it on a commercial basis. The Government will arrange for their standardisation. And to bring such improved, standardised seeds within easy reach throughout the kingdom, two new seed propagation centres will be added during the Plan period to bring the total to twelve, capable of producing 363, 950 pounds of seeds on 430 acres of land.

Cash Crop Cultivation: Due to lack of experts very little has been done in this sphere in our country. For the same reason the Second Plan will see a beginning made in this direction only in the second year. Six agronomy centres will start work on 220 acres of land to produce 480,000 pounds of seed every year during the Plan period. Oil seeds, sugarcane, cotton, tobacco and jute will receive special attention.

Pasture Land Development: If pasture land development centres are opened and nutritive grass is planted on the arid land situated at different heights of the mountainous region, calamities like land slips and soil erosion will be prevented, while cattle health will be improved and dairy industries should prosper and grow. For the time being this work will be undertaken on an experimental basis. The programme is to open such centres on 12 acres in Kathmandu 100 acres in Jiri, 50 acres in Pokhara, 40 acres Chitlang and 200 acres in Rapti.

Seed standardisation project : Under this project the Government will give improved seeds to the commercial producers for further propagation and their product will be registered or certified in ordor to maintain standards. The peasants can approach either the registered or certified producers to buy improved seeds.

Horticulture

Extending from east to west, Nepal has a wide variety of climates ranging from the arctic cold to tropical heat. The country is peculiarly pre-disposed to the cultivation of a wide variety of fruits and vegetables. The Tarai expanse including the inner belt known as Bhitri Madhesh (the inner Tarai) can be a rich orchard of tropical fruits like mango, lichi, plantain and papita. The middle zone of semi-arctic and temperate climate is well suited to the cultivation of citrous fruits such as the orange, lemon and pumello as well as the pomegranete, the apple and the walnut. The northen Himalayan region is the Place where fruit trees can thrive and should occupy an importance. At the moment, however, it is covered with low-yield cereals. The better and more profitable course would be to change the pattern of cultivation completely and plant fruit gardens in this area, which will be a source of nutritive food and a means of raising the income of the farmers. Other land areas where no cultivation is possible can be put to use as production centres of raw materials needed for the protection and perpetuation of the fruit trees.

The first step in this direction was taken in 1955. High-grade fruit saptings and vegetables were imported and planted in Kathmandu, Parbanipur, Kakani and Rapti. Of the saplings the peach, apple, grape, apricot and orange diserve special mention. In 1961-62 research Centres were opened in Dhankuta and Pokhara, and in Kirtipur of this year (1962). Apple gardens were established in Dhunibeshi, Helambu, Kakani and Damari. Though the Kakani apple garden is 8 years old, it was only in 1962-63 that apple trees were planted on 257 ropanis equivalent to 32 acres. The Godavari garden is also 6 or 7 years old but it started receiving proper care and nurture only from 1962-63. It is now expected to be self supporting by 1963-64. In the Singhadurbar garden there was not enough land and owing to the preponderance of vegetable seedlings, much attention used to be centred on them to the exclusion of other activities. Hence, the experimental work which used to be conducted there will now be shifted to the Kirtipur centre.

Programme Under The Second Plan

The two research centre willl be opened in Kathmandu and Dhankuta and the two sub-centres in Pokhara and Kakani will be fully equipped and a new sub-centre will be opened in Baitadi within the Plan period. The orchard cum nursery in Bhairawa will be extended and arrangements have been made to open similar nurseries in seven more places and trial orchards in four places. In addition, a potato cultivation centre, a fruit protection centre and a public park cum botanical garden will be set up in Ilam, Dharan and Balaju respectively. The foundation stone of Balaju botanical garden, which is named as Mahendra Park, is already laid. The purpose of the research centres enumerated above is to promote fruit cultivation to produce and distribute vegetable seeds and seedlings, to start canning industries, to encourage cultivation of cash crops like tea and pepper, to experiment on different fruit trees with a view to matching climatic conditions and to exhibit and propagate the findings, where such experiments prove successful.

Apart from favourable climatic conditions, fruit growing can yield maximum benefits only if communication facilities are available to market the product. With this in mind the fruit growing areas have been located in places open to road transport. The only exceptions are inclusion of Dailekh, Baitadi and Thak where there is no possibility of road connection at least in the near future. Dry fruits and temperate zone fruits contain a high degree of nutritive substance, and they can be grown in Dailekh, Baitadi and Thak only. Under this programme 1·4 million pounds of potato seeds, 1·2 million pounds of vegetable seedlings, ·2 million saplings of fruit-bearing trees and 60,000 pounds of fruits will be produced within the Plan period.

Tea: In any list of fruits and vegetables tea occupies a top place as a commercial cash crop. Arrangements have been made for planting a tea garden on a 250 acre plot in Ilam, which produced 47,150 pounds of tea in 1959. The production rate may be computed on this basis at 188 pounds per acre as compared with 600 to 900 pounds per acre in India and Pakistan. The main factors leading to this low yield are lack of proper care, poor management, retention of old plants and insufficiency of technical knowledge. Within the Second Plan period tea cultivation will be confined to this plot on an experimental basis with of course appropriate reform measures.

Live-stock Improvement

As the three-fourths of the land surface are semi-mountainous and semi-Himalayan, Nepal's potential for live-stock development particularly sheep farming is incalculable. On the hill slopes and on level mountain tops, where no cultivation of food grains is possible, extensive pasture lands can be maintained. The people living on these regions can be educated on the benefits accruing from stock-farming. For this purpose a sustained campaign of publicity and exhibitions on cross breeding followed by distribution of pedigree bulls and other animals appears to be most desirable in the interest of livestock improvement.

No argument is needed to prove how important and imperative the live-stock improvement is for the farmers more than for other sections of the population. For various reasons the farmers have not so far been able to gain what they should from the cattle, buffaloes, sheep. goats and pigs, and the yaks grazing near the snow-line. The Government has now taken on itself the task of importing pedigree animals, cross-breeding. distributing the products as samples and popularising modern improvement techniques in an effort to encourage the people of the rural areas.

The Live-stock improvement programme dates back to 1953 when a stock farming centre was opened in Singhadurbar with some bulls and cows imported from the Sindh (pakistan). This was followed by the inauguration of a sheep farm in Chitlang in 1956 with sheep imported from the United States. In later years a cattle farm and a buffalo farm were set up in Rapti and Jiri respectively. These farms have been conducting studies and experiments in applying cross breeding techniques and disposing of the product by sale or otherwise for publicity purposes. The animal samples include red Sindhi, Nepali Jersey, Brown Swiss and hybrid Hariana Cows, Buffaloes of the Murra species imported from India, and Ramboillet, Dorset and corriedale ship along with Hampshire pigs. Survey work on the possibility of sheep farming in Pokhara and pig rearing in Rapti and Jiri has been completed.

Programme Under The Second Plan

Additional cattle farms in Biratnagar and Janakpur, sheep breeding centre in Humla Jumla, a buffalo farm in Palpa and pig farms in Rapti, Jiri and Biratnagar will be opened within the Second Plan period with a view to making a study on animal feed, popularising the improved system and expanding the provisions for artificial insemination. For this purpose artificial breeding centres will be established in Kathmandu, Pokhara, Rapti, Jiri and Biratnagar, while Pokhara will have a sheep and pasture development centres. The production of all these centres is estimated at 424 cattle and buffaloes, 700 sheep, 1,600 pigs, ·9 million pounds of milk and ·1 million pounds of wool. In addition arrangements will be made to inseminate artificially 40,000 cows.

Poultry Farming

Poultry farming as a commercial undertaking can produce a sustained rise in the standard of living of the villagers, provided it is done on scientific lines. The introduction of eggs can improve the otherwise unbalanced diet of the people. As it does not need heavy capital investment, poultry farming can be undertaken with benefit by the lower middle class people also. The high price of the meet and eggs of chicken is largely due to the low productivity of the local breed. The new Hemphire breed lays between 200 to 220 eggs a year, and an introduction of this breed will naturally help to bring down prices. The Government has, therefore, accepted the policy of popularising such breed.

The first poultry farm in Nepal was the one opened in the Singh Durbar in 1954. Six years later another farm was established. It is equipped with three incubators capable of hatching 1,400 eggs. Hatching 2,000 eggs a month, it now functions as the central hatchery. The Singh Durbar poultry farm is chiefly engaged in experimentation. It has a broader farm attached to it.

Second Plan Target:— Consolidation of the existing farms and the establishment of new brooding farms in Pokhara and Biratnagar are the targets for the Second Plan. The brooder farm now under construction in Kathmandu will be completed and the Parwanipore farm will be raised to the status of a central hatchery. The purpose of all these farms is to multiply fowls of better breed, to distribute vaccinated chicken among the villagers, to open co-operative committees for poultry business to make available protein rich food in the general diet, to conduct experiments and to publicize the findings. The Parwanipore farm in particular will make available eggs and chickens to the proposed co-operative committees.

The Government cannot afford to continue these activities for ever and ever. Once the people have been educated and the co-operative committees opened in adequate numbers the job of the Government will be confined to the provision of financial and technical assistance to encourage poultry farming on a commercial footing. To this end, co-operative committees will be set up in Kathmandu in the beginning of the Second Plan and in Biratnagar by the last year. The Parwanipur Central hatchery will maintain an annual output of ·2 million eggs and 4,000 chicken a year. In terms of money, it amounts to an income of Rs. ·1 million a year. The annual income from the brooder farm is also estimated to bring in the same amount.

Fisheries Development

In addition to big rivers Nepal has a large number of ponds lakes and other natural water resources. But as fishery is a new thing,most of them are being unused. If these water resources were utilised for fish farming it would not only raise the standard of living but would also help build up an attractive source of protein food. Uncared-for and in a state of grave disrepair, the old ponds are infested with harmful microbes. Fish cultivation in such ponds will make the water healthy and immune from germs, areas of land with water supplies but unsuited for cultivation can also be turned into fish ponds.

Fish farming was introduced in Nepal twelve years ago with the introduction of the mirror carp fingerlings from India. One of the peculiar natures of these fish is that they do not breed in ponds, which means that every year fresh eggs had to be imported from India for development. Difficulties of transport added to the cost to make the experiment somewhat prohibitive. In 1956, German carps were released in some ponds in Kathmandu. They stood up well to our climatic conditions and in 1959 they started breeding. Experiments in the climate of the Tarai showed positive results in Parwanipur. Encouraged by these successes, a scheme was included in the last Plan to develop fisheries and two fish ponds were constructed in Godawari (Kathmandu) and Janakpur. Breeding and distribution centres were set up in Parwanipur, Biratnagar, Bhairahawa and Pokhara. In the Kathmandu Valley Balaju, Kamalpokhari, Taudaha and other historic ponds began to be cleaned and renovated. To increase the variety of fish Israeli mirror carp was imported, and extensive studies revealed that it has a good prospects.

In the Second Plan experimental works in the existing Godawari and Janakpur fish farms will be continued, since Kathmandu is to throw light on the problems of the valley and the hills and since findings in Janakpur are to provide guindance for other Tarai areas, these farms will be fully equipped with laboratory apparatus and other aids. To develop the lakes of Pokhara fingerlings of good breed will be introduced for study and tests. Within the Plan period breeding centres in Kathmandu, Biratnagar, Parawanipur and Bhairahawa will be consolidated and two new breeding cum distribution centres will be opened in Nepalganj and Jhapa. Since the primary purpose of fish farming is to encourage private production, fish-eggs will be distributed in the form of aid to the peasants all over the country under the agricultural extension programme. This programme is estimated to produce 3·5 million fingerlings and 1·7 million pounds of fish.

Dairy Farming

Development of dairy farming is the prerequisite for the commercial exploitation of the livestock in an agricultural country. In Nepal, however, dairy farming still wears a novel air. It started just ten years ago. Although it has lagged far behind the target fixed for it, the progress made in this direction, which includes the erection of a pasteurisation plant is very satisfactory. Since the inception of this industry 6 milk collection centres, 6 cheese factories and 1 milk refinery have been established. The refinery has the capacity of pasteurising 1,000 pounds of milk an hour. Cheese manufactured in Nepal has already made its debut in the export market.

Production figures to-date are 1,883,000 pounds of milk, 56,400 pounds of butter, 95,900 pounds of cheese and cream.

The Second Plan aims at encouraging rural and sub-urban farmers to produce more milk, selling pure nutritious milk at 'rock-bottom' prices, increasing production of unadulterated ghee, earning foreign currency through the export of such ghee, and exhibiting and publicising among the people the latest methods and techniques of producing milk and milk-products. For this purpose the programme envisages the consolidation of existing dairy farms and the establishment of new ones in appropriate places.

To carry into effect the consolidation part of the programme a milk chilling centre will be set-up in Bhaktapur and another at some other equally strategic point. To meet the requirements of the Tarai a pasturisation plant will be established in Nepalgunj with 5 complementary milk collecting centres. Kathmandu will also have 11 more milk collecting centres. As for cheese production a processing plant will be opened in Kathmandu, 3 standard cheese factories in the hills, 5 cheese shelters (1 each in Lamtang and Thodung), 1 cheese store in Kathmandu and 2 in the hills, 1 cheese factory in East No. 3, three pigaries in Lamtang, Samalapike and Thodung, and a ghee refinery in Butawal. These centres are expected to work up to the following schedule of production within the next three years: 2·7 million lbs. of milk, 30,500 lbs. of cheese, 41,100 lbs. of butter and the refining of ·1 million lbs. of ghee. The receipts in terms of money at present is Rs. 1,708,000 from cheese; Rs. 172,000 from butter and Rs. 2,282,000 from ghee refining. At the end of the

3-year Plan the annual receipt is estimated to rise to Rs. 2,300,000. In addition 1,000 people will get direct employment and between 10 to 15 thousand people will benefit indirectly.

In order to the run existing cheese factories on a commercial footing, maintenance costs will be met from income. And when income goes up, the money will be invested in new extensions.

Agricultural Engineering

A fully developed agriculture implies improved tools and techniques. The implements in use in our country are not favourable to high productivity, while imported ones are not suited to our needs and conditions. The answer to this problem is provided by agricultural engineering which develops and tests locally made tools and produces them on a large scale if they match local conditions.

Agricultural engineering fits in with the general programme of raising farm output. Its direct contribution is the manufacture of advanced implements and provision of technical training as shown in the following abstract:-

1, Experimentation, Development and Training
   a) Provision of advanced implements
   b) Storage of improved crops
2. Technical Assistance and Training
   a) Mechanical Repairs and Training
   b) Farm Irrigation and Training
   c) Constructive Work and Training

Within the Plan period co-operation will be extended to the construction of more than half of the 40 farm houses. For that purpose 8 or 9 designs will be prepared Of its current achievements mention in particular may be made of the design and cost estimates prepared for the fish ponds, cattle sheds, sheep pens and poultry houses, training imparted in the various districts in the General Technical Assistance courses, and new designs drawn up for three types of ploughs three types of cultivators and a power thresher.

Programme Under The Second Plan

The target is to develop 3 types of ploughs, 4 types of harrows, 2 types of weeders, 2 types of threshers and 2 types of sowing machines. And if they prove useful after extensive use under differing conditions private producers like the blacksmiths will be trained and assisted to produce them for mass consumption. Within this Plan period encouragement will be given to two private manufacturing firms to produce agricultural implements. Fifty agricultural extension workers will be trained by means of experimental displays and guidance in thirty different places, and 32 ploughs, 350 harrows and 70 weeders, manufactured to new specifications, will be distributed.

In addiition, 6 types of granaries will be designed to popularise less expensive methods of pest-proof storage of crops and 80 store-houses will be constructed in the different districts. Work-shops will be opened to repair jeeps, motor cars, tractors, ploughs, engines, pumps, and other mechanical equipments; training will be given to 135 persons including drivers, mechanics and operators, and 24 different kinds of publicity materials will be published. The Plan programme also includes completion of 60 per cent of the buildings under the Department of Agriculture, 50 per cent of cattle sheds and poultry houses et cetera, and 20 per cent of the construction of such houses for the use of the villagers. Training will also be given on in irrigation methods in seven different places including Kathmandu, Biratnagar and Dhankuta.

Veterinary Hospitals

Live-stock population is currently estimated at eight times the human population. But the health facilities provided for them are strictly limited, with the result that diseases like rinderpest, hamorsgin, Septicamoea and anthrax take a heavy toll of the animals, while the birds fall prey to Ranikhet, chichen-pox and fowl cholera. The 11 veterinary hospitals functioning in the Kingdom at present have proved unable to control these diseases, the chief reason being lack of proper equipment and trained personnel. Nothing substantial was done in this field in the last Plan.

Realising the grave threat to the domesticated animals and birds posed by the prevalence of such fatal diseases, the Second Plan has worked out a scheme of adding 21 more veterinary hospitals to bring the aggregate to 32, of which 14 will be zone-level hospitals and the rest will be at the district level. The zonal hospitals will be located in Kathmandu, Pokhara, Bhairawa, Kalaiya Biratnagar, Nepalgunj, Janakpur, Rajbiraj, Jhapa, Baitadi, Dang, Doti Jumla and Baglung, whereas district hospitals will be opened in Bhaktapur, Dhulikhel, Trisuli, Bhojpur, Okhaldhunga, Kailali, Surkhet, Palpa, Bandipur, Lalitpur, Humla, Puthan, Mustang, Kanchanpur, Sindhuli Garhi, Dhanakuta, Ilam and Bharatpur. They include 11 dispensaries and hospitals which will be completely re-modelled and equipped with the latest accessories. In addition 4 'check posts' will be maintained to screen animals and birds imported from outside so that they may not function as 'relay points' of the infectious diseases. Training will be given to 40 stock supervisors and 120 stock men. A laboratory will be attached to the central veterinary hospital to manufacture vaccines, serums and biological products. In the beginning, it will concentrate on manufacturing G.T.V. vaccines for distribution in places where necessary. Arrangement will also be made to run a slaughter-house in Kathmandu. It will be scientific and well-equipped to ensure a supply of fresh clean meat. It will check the various diseases which people are apt to catch by eating the meat of diseased animals, and will add to the income through sale of skin and wool.

Agricultural Extension

The principal motive behind the agricultural extension programme is to keep up a two-way traffic between the research centre of the Department of Agriculture and the peasants. It will transmit to the latter results of the various research experiments, and will bring to the notice of the former the problems facing the peasantry. The methods employed to this end are exhibitions, information and publicity materials. It engenders faith among the peasants techniques of agricultural development such as advanced tools, improved seeds, new methods, good fertilisers, minor irrigation, protection and development of live-stock, and crop protection. Regional offices are functioning in the different parts of the country with a view to making the peasants self-dependent and self-supporting through assimilation of modern scientific methods and materials.

Second Plan Targets

To add 3 more regional offices each year to the existing 5 to bring the total to 14 or one to each zone; to appoint the Junior Technical Assistants to 10 districts each year so that by the end of the Plan period every district will have the services of a JTA; to popularise the use of improved tools; to mount a production drive; to publicise knowledge about home science from district to district and to acquaint the maximum number of farmers with new systems and findings—these are the targets aimed at within the Plan period. Summary estimates are given in Table XIX below of the indirect production gains through the application of the agricultural extension programme.

TABLE XIX

	Unit	Quantity
Vegetable Seedlings	Number	1,200,000
Fruit "	"	200,000
Vegetable	Pound	18,000
Paddy	Maund	4,600
Wheat	"	1,600
Maize	"	1,400
Sugarcane	"	7,700
Potatoes	"	4,500
Crop Protection	Acre	11,800
Agri-tools	Number	1,650
Fish	"	2,500,000
Live-stock to be treated	"	400,000
Bulls and Buffaloes	"	375
Sheep	"	280
Pigs	"	1,050
Chickens	"	89,000

Crop Protection

Control and elimination of plant diseases and plant pests is of critical importance in any programme of agricultural development. Hundreds of varieties of diseases and pests ravage and lay waste the main agricultural crops like paddy, maize, wheat, millet, vegetables, and oilseeds.

They make inroads not only in the open fields but in store-houses as well. In the absence of reliable statistics it is difficult to estimate the degree of loss sustained annually, yet it would not be far wrong to put it at 15 to 20 per cent of production. If only 50 per cent of the loss could be checked, it would leave ·4 or ·5 million maunds of crop to the diligent peasants.

During the First Five-Year Plan some equipment and some sections of the laboratory were set up. And it demonstrated the use of chlorodine and nicotine et cetera in destroying plant-pests in Rapti, Dhankuta and other places. It conducted a study of insects infecting maize, paddy, apple and sugar-cane and publicised the findings through Radio baoadcasts, paper and magazine articles. Besides, it surveyed and collected pest specimens in Godavari, Biratnagar, Kirtipur and Kharipati.

The target set for the Second Plan is to carry out a field survey of those areas particularly prone to the ravages of plant diseases and pests, to set up three crop protection sub-centres, to organise six service units, to make a study and publish the findings of the insects infesting the crop stores and to hold exhibitions designed to enlighten thepeasants on methods found effective. This is apart from completing the central laboratory with equipment.

Service units will be stationed in Rapti, Bhairahawa and Biratnagar and a sub-centre will be set up in Parwanipur. Kathmandu will have an insect museum. After a year or two the service units in Biratnagar and Bhairahawa will be converted into sub-centres to coincide with the opening of two such units in Jiri and Dhangarhi. Thus when deduction is made of the service units that are to be converted into sub-centres, the number will be three each. Since these sub-centres and service units are to function in the different parts of the country it is not easy to state definitely the area of their efficacy, yet it may be estimated that they will cover in all 3.5 million ropanies.

Agricultural Economics

Agricultural resources and production occupy the centre of the stage where the economy is predominantly agricultural. And the study of agri-economics, which deals with the factors relating to agricultural production, market conditions and distribution methods, has an important bearing not only on the national life in general but also on the development of agriculture. Yet, since this section was opened only one or two years ago, it can not be expected to accomplish much within the Second Plan period. It will concentrate on the study of the market, evaluation of the agricultural development projects, and compilation and publication of agricultural information. In particular, research into the problems of marketing agricultural produce should be of great help in improving sales.

Within the Second Plan period a study will be made of the marketing of commodities like potatoes, ghee, rice oilseeds, sugarcane, tobacco and of fruit growing areas like Ilam, Palung, Butwal Dhan Garhi, Jhapa, Chitwan, Banke, Mahottari, Kamal Khonch, Pokhara Dharan and Bhairahwa. To maintain a uniform standard, legislation relating to weights and measures will be formulated and applied in Kathmandu, Biratnagar, Nepalgunj, Birgunj and Butwal. Fruit grading and standardisation centres will be opened in Dharan and Butawal. Starting from the second year of the Plan, an evalution of the development works in the preceding years will be made and valuable statistics and informations on agriculture will be made available to the national and international agencies.

Soil Analysis

A comprehensive survey and analytical study of the different kinds of soils found in the country forms part of the agricultural development programme. Production after all, is determined by the fertility of soil, which deteriorates after long years of successive cultivation, affecting the rate of productivity in the same proportion. Study shows that the soil accumulating in the valleys and river basins has a higher degree of fertility, and that, generally speaking, the soil of Nepal is slightly deficient in nitrogen, phosphorous and potassium. A systematic and detailed survey is called for to find out the causes leading to such a state and to supply chemical fertilisers to make up for it. It is only on the basis of the facts brought to light by such a survey that the opening of big agricultural farms and plants manufacturing chemical fertilisers can be projected.

The first step in the direction of soil analysis with a view to increasing the farm output was taken in 1955, Progress made within the First Five-Year Plan was to analyse 1,193 varieties of soil, to make a test of different fertilisers in the agricultural farms in Rapti, Parwanipur and Kathmandu, to survey and map out Rapti and the Kathmandu Valley; to collect more than 200 samples of soil in Rapti for analysis and to publish 5 kinds of booklets on the use of fertilisers

In order to expand the scope of these activities as much as possible the Central Soil Laboratory will be equipped with a full range of apparatus and a smaller laboratory will be founded in Biratnagar. The agricultural extension programme will be utilised in carrying out field studies, conducting new research, mounting publicity campaigns, and propagating methods of using fertilisers. Fertiliser tests will be made in paddy, maize; potato, pear and apple cultivation in Kathmandu, Parwanipur, Rapti, Dhankuta, Pokhara and Kakani. Junior Technical Assistants will be deputed to Rapti, Biratnagar, Bhairahawa, Parwanipur, Jiri and Dhan Garhi to study and do research into the fertility of soil.

Food Laboratory

To fit in with the spirit prompting freedom-from-hunger movements all over the world His Majesty's Government has conducted through the Dapartment of Agriculture a grow-more-food campaign on a national scale. In itself this campaign will be ineffective if proper use is not made of the additional produce and timely precautions are not taken to guard against wastage and decay. Further, the central meaning of the freedom-from-hunger movement is not to go half hungry or live on the brink of starvation, but to eliminate the use of adulterated and less nutritive foods, which is closely associated with poverty.

As no measures have hitherto been taken in this vitally important subject, the Second Plan has to start from the beginning. It aims at instituting a food laboratory as part of the preparation for the formulation of a food policy designed to raise the standard of food and nutrition. The laboratory will find out the facts about the nutritive content of the different foodstuffs produced in the Kingdom, to inculcate the habit of a nutritive and balanced diet among the people to find out ways and means of preserving crop stocks, to enforce the system of analysing ghee, cooking oil, milk and milk products in the laboratory in order to prevent adulteration. to maintain food standards and to test the purity. A certificate will be issued after tests have been made. The process of testing and certification is expected to yield a revenue of 56,000 rupees.

Home Economics

The principal objective of home economics is to give a picture of an advanced domestic life by publicising results of the researches into good food, family budgets, sanitation, child and baby care, household management and culinary arts. It was only in 1959 that a beginning was made in this direction. The results so far are some research on daily diets and publication and distribution of certain literature on the subject. Certain tests have also been carried out in connection with washing, food-stuffs and clothes. The chief reason why more was not done was a shortage of staff and lack of a suitable laboratory.

In the Second Plan are included the targets of studying the findings of other countries and adopting them in so far as they are consistent with our conditions. In addition, an attempt will be made to effect co-ordination between other functions of the departments producing eggs, milk, ghee and cheese; publish publicity materials and extend laboratory facilities to the Junior Technical Assistants. To achieve these ends a small but fully equipped laboratory will be brought into being. Tests will be made on new methods of crop storage, washing and laundering. A 'census' will be made on the standard of knowledge prevailing in the Kingdom on such things. Exhibitions will also be held and literature distributed to propagate methods of preparing jelly and ketch-ups from the fruits and vegetables produced by the different farms.

Minor Irrigation

Irrigation has a unique place in the scheme of agricultural development. But since big irrigation projects take a long time and involve large scale financing, minor irrigation has to be resorted to produce immediate effects at less cost, nothing use of small water resources which otherwise would have been ignored. Meanwhile, it would be well to remember that in the absence of irrigation facilities, major or minor, other methods of stepping up agricultural production would have no corresponding effects.

It follows that the agricultural extension centres functioning as multi-purpose farms should extend irrigation facilities with a view to rounding off the agricultural development programme, Minor irrigation projects include the digging of small wells, construction of ponds, provision of storage tanks, construction of small dams and canals and the use of suction pumps and other quick and economical means. Although the Department of irrigation is to take in hend small and intermediate projects and some of the high-cost projects, they are also included under the agricultural development programmes to introduce a note of dynamism and drive. Until last year such acrivities were conducted by the Village Development Department under the technical guidance and supervision of the Junior Technical Assistants. And the achievements within the last Five-Year Plan period were: 672 miles of canals, 2,958 irrigation wells, and 1,867 tube-wells.

The Second Plan aims at increasing agricultural production through irrigating larger tracts of land, popularising winter crops, encouraging cultivation of money crops preparing topographical maps after surveying water resources in each district where minor irrigation projects are to be implemented with a view to reducing food scarcity occasioned by dry monsoons, initiating irrigation works by the introduction of the 'lift' system where necessary, arranging for small power-pumps for testing purposes, using a pipe system where the gradient is low, and repairing and building check dams and diversion dams. Of these various measures, construction of canals and diversion and check dams, has been accorded a special place with the other systems trailing behind in experimental forms over relatively small areas. Preference will be given to those places where the agricultural development programmes are already in operation and where the land is suited to the cultivation of cash crops. In the interest of publicity some of these projects will be conducted wholly by the Government and some through the co-operation of the people with technical direction and financial assistance made available by the Government. The combined result of these various projects will be to bring water to 11,000 acres of land.

Multi-purpose Development

Valley development projects were launched to secure all-round development of some of the selected areas which, though backward, held possibilities of rapid improvement. The Village Development Programme, conducted hitherto, concentrated largely on agriculture and social services to the exclusion of the claims of cottage and small industries, fish farming and other 'rapid fire' ventures, leading to a lop-sided economy. To correct this defect the multi-purpose project has been devised, and put into effect in the Palung Valley, the Lalitpur Valley and the Pokhara Valley. Their number will be increased according to need in other parts of the Kingdom within the Second Plan period.

The multi-purpose development programme includes measures to increase farm produce through the establishment of 'show' farms and distribution of improved seeds and quality fertilisers, to arrange for small dams and canals, to make available credit to the peasants, to provide necessary equipments and impart knowledge of cottage industries, to teach sanitary methods and preventive measures, and to educate the rural population through properly-staffed schools. The local people will be enlightened on the meaning and purpose of the Panchayat system so that their active co-operation may be forthcoming in all development works to be conducted through the local panchayats. While delimiting the scope of this programme, proper care will be taken to make it conform with the policy of balanced regional development and the maximum use of the locally available resources.

Resettlement

The object of the rehabilitation programme is to settle the landless peasants in new areas and to provide them with necessary means of livelihood. As a result of the population growing at the rate of 1·6 percent per annum and the high density of population in some particular areas holdings have been fragmented beyond economic units, necessitating the rehabilitation of a section of the people in some new areas. A rise in the number of landless agricultural labourers has led to reckless felling of trees and a gradual shrinkage of the forest area, the wealth of the nation. As a result land slides and floods have assumed grave proportions and the problem of soil fertility has been more deeply accentuated. Forest clearance for the purpose of cultivation is a haphazard job done without reference to whether there are water facilities and fertiliser provision. Naturally the soil yields a poor crop, and the landless peasants seek the remedy in bringing another patch of the virgin forest under the plough. Systematic rehabilitation prevents this scourge of 'migratory' cultivation. For purposes of rehabilitation ex-servicemen serving with the Royal Army in Nepal and elsewhere will also be bracketed with the landless farmers.

Progress Under The Rapti Rehabilitation Programme

Systematic rehabilitation was undertaken in Rapti under the First Five-Year Plan. The malaria-infested land was thoroughly immunised and the bush-covered soil was ploughed up with a view to relieving the pressure of population in some neighbouring areas, rehabilitating the landless peasants and solving to some extent the food problem of the Kathmandu Valley.

Before the inauguration of the First Five-Year Plan Rapti had a population of 25,000 cultivating 25,000 bighas only, while an additional 50,000 bighas could have been easily brought under the plough. It was exactly this that the First Plan sought to do. It distributed 41,027 bighas of land among 5,233 families, of which 15,224 bighas are known to have been cultivated, though for lack of statistics it is not easy to quote authoritatively figures. In addition, a 90-acre agricultural farm, 1 live-stock improvement centre, 63 primary schools, 5 middle schools, 37 adult schools, 15-bed hospital and 3 health centres were established within the Plan period. The co-operatives movement was also launched successfully with the founding of 53 co-operative credit societies, 2 multi-purpose co-operative institution and a sales and credit organisation. Mention may also be made of the airport constructed in Bharatpur, 66 miles of gravelled highway and 111 miles of ungravelled roads linking the villages, laid out to provide transport facilities. For the protection of the wild animals the Mahendra Kunj (wild life sanctuary) was set up and the Rapti river was tapped for irrigation purposes. The Rural Institute, which was established here, enough can give training in health, forestry and village development to meet the needs of the other parts of the Kingdom as well.

The foregoing general review makes it clear that the re-habilitation programme has proceeded on an even keel. The experience and knowledge gained here will stand in good steal while tackling similar work in other parts of the country. What the Rapti programme has so far lacked has been development on a community basis, use of advanced farm techniques and establishment of such institutions as are justified from the socio-economic stand point. Since rehabilitation was to be in a totally new area, valuable experiments could have been easily made on a new pattern of cultivation befitting economic and social development; introduction of new agricultural methods; application of the principles of social equity in the distribution and sale of the farm produce and imposition of scientific standards of refinement. Such experiments would not only have contributed to the development of the people rehabilitated there but would have yielded valuable informations to work upon while undertaking similar programmes in other areas. The Second Plan, therefore, does not confine itself to simple rehabilitation. It will in the process encourage development on a community basis, organise agricultural production in a systematic manner and make commercial and industrial use of the agricultural output apart from purely consumption uses. In short, it will make an effort to create conditions necessary for the enhancement of the standard of living.

Areas fit for rehabilitation are available in other parts of the Kingdom as well, notably or preferably in the hills and the inner Tarai belt (Bhitri Madhesh) where the forests have thinned out to reveal fertile lands equipped with irrigation potentials. Such land tracts are to be found in abundance in the wooden Tarai zone spreading over 2,000,000 acres. But the hill and the inner Tarai regions have the added advantages of stock farming and horticulture. Hence, it is desirable that the rehabilitation programme be launched wherever possible in these areas on an experimental basis.

The Second Plan Targets

Taking all these factors into consideration the Second Plan aims at rehabilitating 6,000 families in 50,000 acres of land in the Tarai, the hills (possibly in the Pokhara Valley) and the inner Tarai (chiefly in the Rapti Valley). The allotment of land, equipment, living quarters and other facilities to each family will be a little higher than what a village cultivator has on the average. The Co-operative system will be applied wherever possible in the social and economic life of the community. The rehabilitation scheme will create a rural community of 400 to 500 families divided into 4 or 5 villages inhabited by 100 families. Each village will have a community centre which will undertake common services. While planning such rural communities proper care will be taken to introduce a variety of crops, determine individual or family holdings, provide irrigation facilities, construct living quarters and other houses and make available normal community service facilities.

Advantage will be take of these new settlements to experiment on new crops and new production systems with a view to raising productivity, and efforts will be to undertake fish farming, fruit growing and farm output processing on a commercial footing. They will form collective ventures, as the individual peasants are likely to be short of capital. Similarly, disposal of the farm produce and procurement of the daily necessities will be managed on a collective basis. This means that the development potential of the proposed rehabilitation areas should be fully considered. Stress will, therefore, be laid in the beginning on surveys and training.

Direction of the Rehabilitation Programme

An autonomous body will be created to handle the rehabilitation programme. It will be invested with full authority to do everything necessary for the efficient management of the job. It will be free from all the difficulties which general administration is likely to run into. It will be a joint-stock company with the majority of shares subscribed to by His Majesty's Government. The working funds and lands needed by the Company will be provided by His Majesty's Government or official institutions such as the proposed Agricultural Credit and Co-operative Bank. Following the acquisition of lands and fund, the company will set about distributing the lands and investing the funds. It will also be responsible for the clearing up of the land for agricultural purposes, setting up the various institutions and providing guidance and direction to the farmers. It will have a Board of Directors to lay down the policy and directive principles. The Government as the major share-holder will have the majority vote in the Board and as such it will draw up an annual programme, decide on methods of rehabilitation and distribution of financial assistance, and formulate criteria for the selection of those who are to be rehabilitated — all these will be done in full conformity with the general policy of the Government. The board will appoint a General Manager to carry out the programme in all its details.

Forests

Forests are important as a source of raw materials for industries, fuel for daily use and lumber for buildings. It has an added value in Nepal where one-third of the territory is under forests. Long years of irregular and uncontrolled use, deforestation, the contract system of each, unrestricted cattle grazing and lack of forest demarcation, forest paths, fire lines, forest acts and forestry services have, however, brought the forest wealth to a pitiable state. In consequence, much damage has been done to the forest and the problems of land slides and soil erosion have assumed alarming proportions. It has come to such a pass that unless scientific steps are taken now the loss to the nation may well be irreparable. The programme under the Second Plan has exactly this end in view—discreet use and scientific conservation of the forests. It stipulates the fulfilment of two conditions: long-term development of the forest and utilisation of it under proper scientific guarantees like the demarcation of the forest limits and provision of the fire lines. The current practice of contracting out the felling of trees has proved inimical and the Government has decided to scrap it.

Complete abrogation of the contract system all at once is bound to have its repercussions on the State revenue. It should be phased out over some years. To begin with His Majesty's Government has decided that the forests of Birgunj, Biratnagar and Kanchanpur in the Tarai will not be given on contract. Year by year the circle will be widened to include eventually all the forest areas in the Tarai. As for the forests of the hill region, they will be handed over to the care and management of the local panchayats. Besides, necessary reforms will be introduced in the forestry services and in the existing forest regulations.

At present, the forests of Nepal may be divided into the following groups: New riverine forests 800 sq. miles, old riverine forests 1,200 sq. miles, sal forests of the Tarai 3,500 sq. miles, marahy forests 2,000 sq. miles, waste land forests 8,000 sq. miles and coniferous forests 2,000, sq. miles.

Progress Under The First plan

There was no competent forest administration organisation before the Revolution of 1950-51. Such administration as there was, was neither efficient in function nor country-wide in scope. The grievances of the people were looked into by the Forest Check Office or by the Revenue Office of each district. The Government turned its attention towards the development of the forest for the first time in 1956 when the First Five-Year Plan was launched. The first step taken under the Plan was to systematise the forest administration by dividing the forest into 7 Circles running from north to south and comprising 13 and 9 Divisions respectively in the

Tarai and the hills. The Division was further split up into ranges and beats. Still two-thirds of the forests in the hills were beyond the purview of the forest service.

The Forest School, set up in 1950 but discontinued in the meantime, was revived in 1959 to train low-grade foresters and rangers. Its output up to the beginning of the Second Plan was 135 foresters and 70 rangers. Other notable achievements were 95 miles of forest demarcation, 49 miles of fire line, 36 miles of forest paths, plantation of trees in 152 acres, nurseries in 20 acres and the distribution of saplings. A deer sanctuary named after King Mahendra was set up in Chitwan, and the Wild Life Act was promulgated. It was followed by a Forest Act in 1962. Altogether 28 buildings were constructed to house the forest offices, staff quarters and check-posts.

Programme Under The Second Plan

The experiences gained in the course of the implementation of the First Five-Year Plan and the availability of a relatively larger number of technicians have opened up the possibility of a rapid rate of development. Accordingly, the Second Plan has allocated Rs. 13,400,000 for the development of the forest resources including herbs. Projects started under the First Plan will be continued side by side with the new ones, which include survey, working plan and training. Given below is a brief description of the programmes to be executed within the Second Plan period.

Demarcation of the Forest Limits: A good deal of importance has been attached to this task because in the absence of a well-defined forest bounds scientific organisation of the forest services particularly the prevention of unauthorised encroachment into forests will be difficult. Within the Plan perion 4,925 miles will be marked out covering the 13 Divisions in the Tarai.

Fire Lines: This task should be undertaken on a priority basis if the early havoc wrought by forest fires is to be prevented. The creation of this line will help to localise the outbreak of fire. As a first instalment 393 miles of fire lines will be laid out in the Tarai.

Forest paths and Bridges: Lack of forest paths and bridges to transport forest products from one place to another makes it almost impossible to get the right price. It also makes difficult the proper supervision of the forest property. To obviate all these difficulties, the Second Plan aims at building 24 miles of forest paths.

Tree Plantation and Nursery: In Kathmandu and some other places where the pressure of population is very high the surrounding forests have thinned out almost to destruction. Consequently, these places are faced with the problems of fuel scarcity, land slides and soil erosion to an alarming extent. The forest development programme has, therefore, laid stress on the planting of trees and establishment of nurseries. The Government has observed a certain day each year as Van Mahotsab or the forest festival, as part of the campaign to focus the attention of the people on the need of afforestation. Planting of quick-growing foreign and indigenous saplings on a mass scale can in the course of years replenish the denuded forests.

The First Plan set up nurseries in 20 places and distributed 2,000 saplings which were planted in an area of 152 acres. This programme will be carried out in 10,000 acres during the next three years. For this purpose a store of foreign and inland seeds will be built up, nurseries will be established, saplings will be distributed and encouragement will be given to the people to plant trees through the local panchayats. To begin with, this programme will be put into effect in the Kathmandu Valley and the outlying areas, certain divisions of the Tarai and in Hanuman Nagar, Janakpur and Lumbini in the Tarai.

National Park, Games Sanctuary and Deer Park: No care was taken in the past to protect wild life. As a result the national birds and beasts have suffered heavy losses already and its continuation might very well mean total extinction of some of the rare and valuable species. During the past two years, however, attention has been given to this urgent problem and a wild life administration Department was founded in Chitwan along with the establishment of a deer park known as Mahendra Kunj. This is calculated to provide opportunities of study as well as entertainment to the lovers of nature and to general visitors. Within the Second Plan period steps will be taken to build national parks and game sanctuaries in Chitwan, Biratnagar and Kailali.

Construction of Office Quarters: The Government has been giving attention to the need of erecting office and staff quarters in the different Circles and Divisions in order to carry out the development works smoothly. The number of such houses already built or in process of being completed is 64. And within the next three years 571 more building will be constructed in part fulfilment of the need of 1,985 such houses.

Protection of Rhinos: This is wholly a new but very important work. The single horned rhinoceros is available only in two places in the world, Chitwan and Assam (India). It is fast dying out and will be extinct if it is not protected from the lust of reckless hunters. A baby rhino can fetch a price upto Rs.40,000. To increase the rhino population a rehabilitation scheme will be carried out in two suitable Divisions in the Tarai.

Herns Development: Varied in altitude and variegated in climate, Nepal is so rich in herbs and drugs that it is scarcely rivalled by any other part of the world. For untold years Nepal has been producing and exporting herbs in profusion, but so far no attempt has been made to develop this trade scientifically and gather statistics on it. In recent times it has been felt that a well-equipped and well-organised laboratory is necessary to conduct enquiries on this subject and develop and use them on scientific lines. For that same purpose the establish of a herbal garden has been deemed essential. A detailed survey is needed to collect particulars of the herbal wealth. If a pharmacy cum trading centre is opened to process and deal with the indigenous as well as foreign herbs, it can be an unfailing source of earning foreign exchange.

The establishment of botanical department in 1937 marked the first chapter in the long history of herbal development in Nepal. It cultivated digitalis and Hayosiyamus successfully and exported them to foreign lands. It initiated the practice of marking out various plots in the Tarai and auction them out to those interested in herbal gardening. The proceeds of these auction sales brought Rs. 300,000 to the Government treasury every year.

In 1960-61 under the First Five-Year Plan herbal farms were set up in Manipur, Dharan and Daman. A botanical garden in Godavari and a central pharmacy in Kathmandu were projected. Trading centres were established in the different places in the Tarai to encourage the herb market. These centres have also helped collect statistical data. And preliminary survey in some hill areas was completed.

Programme Under The Second Plan

Out of Rs. 13,400,000 allocated for 3 years under the Plan Rs. 2,900,000 has been ear-marked for herbal development apart from the botanical survey. Extra allocations have been made for survey works under the General Survey Programme. Given below are the targets of the main projects to be executed within the Second Plan period.

Pharma-laboratory: The Central Laboratory, set up in Kathmandu to manufacture drugs from local herbs and prepare analytical reports will be equipped with modern accessories and apparatus to enable it to exercise control on the production of purious drugs and maintain a standard of purity. In Biratnagar in the east a regional laboratory will be opened as a branch of the Central Laboratory.

Botanical Garden: Work has been started on it in Godavari with the help of British technicians. The progress to date was the construction of two green houses, a fern house, a botanical laboratory and anorchid house. The target set for the Second Plan is to stock it with a full collection of indigenous and foreign plants and conduct botanical researches. When the garden is completed, it should also serve as a point of attraction to the tourist.

Herbal Farm: 4 herbal farms in Shivpur, Manipur, Daman and Dharan have been opened to culture the indigenous plants along with such of the imported varieties as can grow in the soil conditions of Nepal. Two more such farms will be set up at various altitudes within the Plan period to grow rare plants found inside the Kingdom as well as those imported from outside.

Trading in Herbs: Herbs and drugs exported each year to foreign country particularly India amount to Rs. 3,000,000. The Department of Botany has now set up trading centres in the different parts of the Kingdom to prevent the simple peasants from being cheated by the unscrupulous traders and should thereby increase the receipt by ten to twenty per cent. The customs offices in the Tarai are collecting statistics on the export of herbs and meanwhile two trading centres have been founded in Hetauda and Kathmandu. Twelve branches of the Central Laboratory will be opened within the Second Plan period to maintain uniformity of production and to secure the rightful place of the Nepalese herbs in the foreign overseas market. All of them will be in the Tarai, while the hill regions will have only small laboratories.

Industry

A beginning appear to have been made in modern industries in Nepal only in the third decade of the present century. When the World War II started, a number of companies were founded under its influence, but as no consideration was taken of the role of the pre-investment survey, finances and technical know-how, a number of companies did not even see the light of day. Those which started operations had to be wound up before long, and a number of those in active business passed through hard times. Lack of the means of transport and communication, immaturity of the banking system, shortage of statistics, want of technical experts, a low standard of living in the country — all these are responsible for this state of affairs. In these circumstances it was no wonder that during the past decade not a single large industry was established in the private sector.

Indeed, the circumstances are such that there can be no two opinions about the need of conducting surveys, providing economic resources, developing transport, communication and power and filling up the gap of technical experts as a preliminary to the actual settings up of industries. Emphasis has been laid on these things in the Second Plan. But it does not mean that no attempt will be made towards the development of the industries. If the national income is to be raised without delay, if the unemployment problem is to be solved through the utilisation of the raw materials available in the country, if the building materials necessary for the constructive works such as cement and lumber et cetera are to be supplied, and if foreign exchange is to be saved and earned, industrialisation is essential even from the short-term point of view.

But if we look at the problem of industrialisation in the light of the circumstances prevailing in the Kingdom, the practical course of action will appear to lie in the consolidation of the existing industries and the provision of the basic 'overheads' rather than the creation of new industries. Industrialisation, however, hinges as much on the development of agriculture as on the development of the basic economic 'overheads', listed above. Agriculture has a two- fold role in relation to the industry—it supplies in the first place the raw materials needed by the industries, and secondly it makes available the food-grains necessary for the sustenance of industrial 'workers. After all, ours is an agricultural country, and if agriculture remains in a backward state there will be no capital formation for investment in industry. All these considerations point to the need of a balanced development of agriculture and industry. One of the fundamental reasons why it has been found imposible to launch an ambitious industrial programme is the extremely poor rate of agricultural production.

Progress Under The First plan

A sum of Rs. 19,000,000 or 5.7 of the Plan outlay was allocated for industry under the First Five-Year Plan The target was not clearly defined. It listed certain factories to produce sugar and paper. That was all. An ambiguous target was matched by low grade achievment—the establishment of some rice and oil mills and nothing else. In direction of the setting up of new industries all that could be done was to prepare a project report on a cigarette and sugar mill and to conduct a preliminary survey regarding the paper and cement factories. Construction works were undertaken to open up Industrial Estates it Patan and Balaju. A Timber Corporation was set up with a capital of Rs. 10,000,000 to carry out logging and lumbering operations. With a view to encouraging private investors through financial and technical assistance the Nepal Industrial Development Corporation was founded in 1957 under the name of the Industrial Development Centre. It took its present name in 1959. The central purpose of the Corporation was to make available long-term and intermediate financial loans, technical advice and assistance to the existing and prospective industries in the private sector. Within the First Plan period only Rs. 454,000 in the form of loans and Rs. 89,000 in the form of investment were extended through the Corporation because a good deal of attention had to be given to the organisational structure.

Industrial Policy

His Majesty's Government has published a timely industrial policy designed to provide incentives to Nepali and foreign businessmen to invest in industrial undertakings. Under it the foreign investors are invited to put their capital into big industries. A number of facilities have been given to all those interested in industries, whether indigenous or foreign. They include the profit tax exemption for a period of ten years from the start of production, the right to repatriate 10 per cent of the profits and to take back the whole of the investment and the provision of foreign exchange at the rate of 25 per cent a year to such of the foreign investors who wish to withdraw their capital investment. Mention also may be made of the custom facilities which machinery et cetera imported for such industries enjoy.

Programme Under The Second Plan

Priority has been given to the completion of the projects already taken in hand in the public sector and improvement in the conditions of the industries operating in the private sector. A certain number of new industries will be set up in the private sectors, preference being given to such industries as are designed to reduce unemployment through utilisation of raw materials available in the country and to build up a foreign exchange reserve by lessening imports and promoting exports. For this purpose the Second Plan has allocated an outlay of Rs. 90,000,000 and a loan of Rs. 45,000,000. The loan money will be handled by the Nepal Industrial Development Corporation for the improvement of existing industries and the establishment of new ones in the private sector. The industrialisation programme under the Second Plan can be roughly divided into the following categories:—

(1) To complete the construction of industries that have already been undertaken in the

public sector and start production;

(2) To improve the state of those industries already in existence in the private sector;

(3) To establish Industrial Estates in order to develop small industries

and (4) To extend necessary financial and technical assistance with a view to giving impetus to the establishment of new industries in the private sector. The Tables given below show the investments and production under this programme.

State undertakings: Within the First Five-Year Plan preliminary tasks were completed for the establishment of four big industries under the different foreign aids. The site of these factories and their production capacities are given below :-

Name	Site	Capacity
Cigarette Factory	Janakpur	2,000,000,000 (sticks per year)
Sugar Mill	Birgunj	12,000 tons
Cement Factory	Hetauda	50,000 tons
Paper Mill	Nepalgunj	6,000 tons

Of these the Cigarette and the Sugar Factories will go in to production within the Second Plan period. As for the Cement and the Paper Mills, detailed survey works and part of the construction works will be completed. In the meantime a preliminary survey for setting up a leather works has been completed and it is expected to go into operation within the Plan period.

With the establishment of these industries Nepal will enter the age of large scale industries. The Cement

Factory will be the first of the basic industries in Nepal and it will help accomplish other development works quickly and smoothly. The Paper Mill will reduce the country's dependance on the import of paper and stationary goods, thus affecting a foreign exchange saving of approximately Rs.2,000,000 a year. It will employ about 800 people. Similarly, the establishment of the Cigarette Factory will have the effect of saving foreign exchange to the tune of Rs.20,000,000 the import value of the cigarettes. Its employment figure is estimated at 400 people. Apart from leading to the saving of the foreign exchange, the sugar mill will yield an excise duty of Rs.400,000 and give employment to about 500 persons.

Improvement of the existing Industries: The plight of the industries existing in Nepal at the moment is pitiable. These industries are as follows:

Name	Site	Authorised Capital	Paid-up Capital	Capacity
Raghupati Jute Mills	Biratnagar	Rs.10,000,000	Rs.4,613,595	12·5 tons
Biratnagar Jute Mills	"	5,200,000	4,932,150	40/45 "
Morang Cotton Mills	"	2,200,000	1,442,597	1.4 mil. lbs. of yarn and 6·3 mil yds. of textile a year.
Bobbin & Plywood Factory	"	950,000	652,429	20,000 sq. ft. plywood & 25 grosses bobbin

Juddha Match Factory	”	500,000	500,000	1,000 gross
Juddha Match Factory	Birgunj	”	”	700 ”
Nepal Cigarette Factory	”	3,000,000	794,690	1·2 to 1.5 mil. sticks per year
Morang Sugar Mills	Biratnagar	1,400,000	1,279,975	200 tons
Hydro-electric Company	”	1,500,000	1,279,950	160 k/w

Some of these suffer from want of raw materials while others are lying idle for want of power. Other contributing factors to their present state of wretchedness are shortage of capital and technicians. Since it does not look good to keep the few existing industries in such bad shape, the Plan has given special attention to the programme of improving the operating conditions of these industries by means of financial and technical assistance. The Nepal Industrial Development Corporation will function as the intermediary.

In the Jute Industry the two Jute Mills operating in Biratnagar will be run on modern lines by means of additional financial and technical assistance.

As a result, these mills should be able to increase their production by 1,610 and 200 tons respectively. Another large industry in Biratnagar, the Morang Cotton Mills, has remained closed over the past two years owing to a shortage of power and organisational weaknesses, the Plan will turn its attention to get this mill going once again and to that end additional power will be generated in Biratnagar. When this Mill goes into production, 3,373 bales of cloth will be produced. As for the Morang Sugar Mills, additional capical will be invested to bring the production figure to 8,800 annually. In addition to extending economic and technical assistance, the Nepal Industrial Development Corporation will ensure that the existing defects and shortcomings of these industries are removed. The total amount of loan finance which the Corporation will make available will be of the order of Rs. 20,000,000, whereas the private investors are estimated to put up Rs. 8,200,000. It is in this way that the programme will help almost all existing industries. Leaving aside the direct benefits to accrue from increased production, the programme will create a climate of confidence in the investment world and act as an incentive to the establishment of new industries.

Industrial Estates: Small industries have a great importance in Nepal particularly in view of the country's present condition when the lack of capital and technical knowledge make it virtually impossible to float large scale industries. Industrialisation in such circumstances must begin with small industries. But, unfortunately, no particular attention has so far been given to this subject, with the result that the number of small industries is almost negligible. It is against this background that work is now proceeding towards the installation of an industrial estate in Patan. It is expected to have 30 sheds of which 12 will be ready in the first year of the Plan and the rest will follow later.

Similarly, the Industrial Estate in Balaju, which has already been set up under the auspices of the Nepal Industrial Development Corporation, will be extended and expanded. The Corporation will also complete preliminary works on the establishment of a similar estate in Hetauda.

New Industries: Private capital will be encouraged to open up new industries. The Government will make use of the Nepal Industrial Development Corporation and other agencies to extend financial and technical assistance to them. In fixing the order of priorities for the new industries, first place will be given to such industries as will make use of the raw materials, labour and skills available inside the country. Other leading considerations will be to reduce imports and promote exports. The Government will, therefore, give permission for the establishment of textile mills, soap factories and biscuit manufacturing companies, because they will utilise indigenous raw materials and cut down imports. Jute and lumber works will also be given preference because they command a good export market. Mention in this connection may be made of the textile mill which is to be erected in Simara at the cost of Rs. 30,000,000. It will have a capacity of 20,000,000 linear yards a year. Naturally, when it goes into production, it should substantially reduce the import of textile goods. Investment in the setting-up of new industries is estimated at Rs.80,800,000, of which Rs.25,000,000 will be made available by the Nepal Industrial Development Corporation.

Other Activities: To enlighten private industrialists on how production can be stepped up through the use of new and advanced techniques, the Nepal Industrial Development Corporation will draw up plans showing how industries can increase productivity from existing capital resources. In this way, the Corporation will encourage private enterpreneurs to adopt modern methods. It will also run management training courses in a more comprehensive manner in an effort to build up a pool of managerial talent.

TABLE XX

FINANCIAL OUTLAY ON DIFFERENT INDUSTRIES PUBLIC AND PRIVATE

(In thousands)

Name	Public	Private	Total
Jute	X	28,029	28,029
Textiles	X	28,043	28,043
Sugar	30,000	9,913	39,913
Cigarettes	20,000	X	20,000
Cement	20,000	X	20,000
Paper	16,000	X	16,000
Shoes	1,000	X	1,000
Rice and Oil Mills	X	3,597	3,597
Lumber	X	9,734	9,734
Re-rolling Mill	X	1,795	1,795
Light Engineering	X	4,274	4,274
Machine Shop	X	2,938	2,938
Rosin and Turpentine	X	1,709	1,709
Khayar	X	855	855
Industrial Estate	3,000	2,000	5,000
Other Industries	X	16,113	16,113
Total:	90,000	109,000	199,000

TABLE XXI

INCREATE IN INDUSTRIAL OUTPUT

Name	Unit	Annual production at present	Estimated Annual production at close of plan period
Jute	ton	15,230	8,600
Cotton	yard	X	20,000,000
Sugar	ton	2,430	29,993
Cigarette	stick	390,000,000	2,000,000,000
Lumber	cu. ft.	270,000	320,000
Plywood	sq. ft.	X	10,000,000
Cement	ton	X	50,000
Paper	ton	X	6,000
Steel products	ton	X	9,600
Rosin & turpentine	maund	X	50 000

Cottage And Small Scale Industries

From time immemorial cottage and small scale industries have enjoyed a place of eminence in the economy of Nepal. Their growth was inevitable in the different villages, separated from one another by high mountains and wide rivers, in order to meet the demand for articles of daily use. Practised through the ages as family crafts, the output of these industries had attained a degree of excellence high enough to command an international market. But they suffered a set back when machine-made goods began to flood the country. Until about the middle of the present century the Government did nothing to call a hault to this progressive deterioration. It was in 1945 that the Government turned its attention to the problem and established the cottage Industries Department.

In view of the growing population and the limited extent of cultivable land, expansion of industries has become necessary for the enhancement of the standard of living. But industrialisation on the basis of big industries alone is not possible when the capital and technical resource are inadequate and the scope of the market is restricted. In such circumstances cottage industries can play a vital role in increasing production and reducing unemployment without stipulating for huge capital or profound technical knowledge. Since they permit the dispersal of limited capital investment in a wider area, they can, to some extent, help remove the social inequalities.

Development of cottage industries is welcome in our country where the predominantly agricultural economy compels unemployment for many months each year. Cottage industries can offer the usual population fuller employment and an opportunity to supplement their income. Cottage industries will not only step up the general production of the country, they will also assist the development of agriculture by providing necesaary articles. There is little doubt that the rural industries can be developed in full, provided necessary training and capital facilities are made available. The better course would; be to implement this programme from village to village through the medium of the village panchayats.

Progress Under The First plan

The Cottage and Small Industries Department was given a new look in 1955 when an agreement was signed between His Majesty's Government and the .Ford Foundation with a view to introducing measures to check the decline in cottage industries. The cottage industries development programme includes the Valley Cottage Industries Centre, Cottage Industries Regional Development Centre, Cottage Industries Training and Production Centre in the central jail and Orphanage Centre et cetera.

Although the primary object of these Centres is to give training, some production has also been going on side by side. Sales depots have been set up in Kathmandu, Dharan and Pokhara to sell products of these Centres.

In the Valley Cottage Industries Centre three kinds of training—general, advanced and artisan—are given in different sections. Within the First Plan period 1,425 persons were trained here. Twenty Centres in different places including Doti, Dhankuta, Banepa, Pokhara, Palpa, Bhojpur, Ilam and Baitadi have been set up under the Cottage industries regional development project. These centres give training in 4 lines lifting the local conditions. A cottage industries production centre has been set up in Kathmandu within the pricints of the Central Jail to give theoritical and practical training to the inmates. The primary purpose of this central is to engage the prisoners in gainful occupations preceded by training, which has to be given, because most of them are new to cloth weaving, hosiery knitting, carpet-making, deing and printing. Similarly, 135 boys and girls of the orphanage have been trained and are now engaged in various cottage industries.

The country has not been able to reap full benefit. though the progress made under the scheme of cottage industries training appears to be remarkable. The First Five-Year Plan concentrated largely on training and in the absence of complementary arrangement for giving jobs to the trained persons, the training programme could not yield the maximum benefits. The trained persons were not in a position to run industries on their own, and there was no industry in existence which could absorb them. The Government had made no arrangements to provide them with suitable employment. The combined effect of all this was to create the problem of trained unemployment.

Programme Under The Second Plan

The Second Plan primarily concerns itself with making necessary arrangements for the absorption of the trained persons because, as has been seen, training programmes bear no fruit unless the trained persons are employed in suitable vocations. While charting out the training programme, necessary information will be collected on the number and type of trained persons which the different Departments may need in connection with development works, and the training Programme will be geared to it. The current training programmes will be kept running with additional facilities side by side with the execution of such projects as are capable of absorbing the trained persons.

The Second Plan has set aside Rs. 10,000,000 for the development of cottage industries. This is in addition to Rs. 4,000,000 ear-marked for loan and other facilities to be extended to the cottage industrialists. The number of persons to be trained through the different centres will exceed 2,000 and in the process Rs. 2,500,000 worth of goods will be produced. Artisans who wish to set up industries will be given loans in cash and commodities through the hire-purchase system. These industries along with the pilot projects to be set on foot under the Cottage Industries Department will acconnt for the employment of 2,600 trained persons.

Training

The training centre has 18 sections—spinning and weaving, machine-shop, smithy, dyeing, printing, leather amics; carpet making, hosiery, curios, tailoring carpentry, paper, glassware, electric wiring, design, block and cane crafts. Training under the Second Plan will also be confined to these sections with this difference that new machinery will now be installde in some sections to bring the training standards up to date. Certain branches will be expanded and new facilities for training will be included. The programme will give more attention to hosiery, machine shop, dyeing and printing, canecraft, curio, nickel-plating, cotton and wool manufacture, carpentry and ceramics. The machine shop and the smithy will have additional facilities of sheet metal and welding, whereas the electric wiring branch will be equipped with electronic apparatus. The design branch will be equipped to prepare industrial and architectural designs. Thus with the addition of these facilities the centre will prove helpful in producing skilled and semi-skilled workers necessary for various industries. The training programme will be of three types—general training of an elementary nature for two years, advanced training for one year and professional training for six or seven months given to artisans. Within the Plan period 800 persons will be trained as follows: general training 362, advanced training 213 and professional training 225

Extension

Apart from training, this centre will also undertake extension programmes with a view to making available technical advice to the existing and prospective industries and imparting training to the local artirans through a mobile training team. Under this programme a survey will be made to find out about the nature, form and location of the differeet raw materials and the findings will be communicated to local artisans engaged in cottage industries. In this connection the Centre will produce goods to serve as models. Such pioneering works will yield valuable informations on the potential of such industries and will enlarge the fund of technical knowledge. The total production of the centre is estimated to be of the value of Rs.325,000.

As has been stated earlier, the training programme will be supplemented by arrangements to employ the persons so trained. Having no capital of their own, these trained persons will have to sit back with folded arms until new cottage and small industries emerge on the scene. The simple solution lies in distributing loans to them on behalf of the Government. Under this programme loans worth Rs.2,500,000 will be distributed through the valley and Zone centres covering 350 industrial artisans and providing employment opportunities to 2,000 persons.

District Centres have so far been set up in the following places: Baitadi, Doti, Jumla, Sallyan, Baglung, Plapa, Pokhara, Trishuli, Bharatpur, Dolakha, Bhojpur, Dhankuta, Ilam, Syanja, Gorkha, Dang, Banepa, Choutara, Rumjhatar and Lamjung. Now that the entire Kingdom has been divided into 14 zones and 75 development districts, 14 of these centres will be converted into Zone Centres and the remaining 6 will continue to function at district level. Within the Plan period the Zone Centres will not only engage in training and production but also in giving economic aid and technical assistance, while the District Centres will primarily concentrate on training and partly on extension programmes. The number of persons receiving training from the Zone and District Centres will be 650 and 150 respectively. Annual output will be of the total value of Rs.800,000.

A cottage industries training unit has been established in the Central Jail (Kathmandu) to train the inmates on different lines so that when they come out they may be able to support themselves by taking to honourable jobs. This Centre trains the inmates and in the process produces a large variety of goods. Similarly, boys and girls living in the government-run orphanage are trained in the different branches of cottage industries in order that, when they grow up, they may have something to which they can turn their hands to and prove themselves able partners in the great task of national construction.

Within the Plan period the cottage industries unit in the Central Jail will be extended to include casting, carpentry and other new lines. 250 prisoners will be trained within the Plan period. Production will keep pace with training particularly in the textile section, and it will be to the tune of Rs. 600,000. In the orphanage too production will go hand in hand with training. It is estimated that 175 boys and girls will receive training.

Sales Organisation: Cottage industries emporior have been open in Kathmandu, Dharan and Pokhara under the cottage industries development programme to organise the sale of articles produced by the villagers in their village homes. As this organisation is designed to effect quick sales of home products at a fair price, it will encourage production of more such goods. The Second Plan will extend additional facilities to these sales organisations. Show cases or show windows will be opened in the Royal Nepalese Embassies in the United States and the United Kingdom to advertise cottage industry products. The Gauchar Airport in Kathmandu will also have a similar show case. This arrangement will help to advertise and promote the sale of cottage industry products in the foreign countries and earn foreign exchange. It is estimated that through this arrangement the sale within the Plan period will total Rs. 2,700,000 yielding a profit of Rs. 250,000. The emporian in Dharan and Pokhara will arrange for the sale of local produce and the procurement of raw materials for the artisans. The Second Plan will introduce the hire-purchase system in an effort to extend additional facilities for the establishment of cottage industries and for the modernisation of the existing ones. Under this scheme machinery will be made available on a hire-purchase basis to about 80 industrialists. It will not only raise the volume of production but will also give employment to 400 more persons.

Pilot Project: Certain pilot projects will be started under the cottage industries development programme in the industrial estates to be set up in Patan and Balaju. These projects will deal with canecraft, leader works, curios, dyeing and printing, and hosiery. The end and aim of these projects is to demonstrate where and how small industries can be run with profit, thus indirectly encouraging people to participate in such industries.

As there is always a time — lag between the establishment of industries and the flow of profits, not much income by way of profit is expected to accrue during the Plan period. The total production is estimated at

Rs. 800,000, yielding a profit of Rs. 45,000 or thereabouts. Since the main object of the cottage industries development programme is to find jobs for trained persons, the pilot projects will also seek to employ the maximum number of such persons. According to present estimates, the number will be about 200.

Tourism

In a modern economy the place of tourism as a means of increasing the State revenue and as a source of earning foreign exchange is of unique importance. Tourism is increasing in popularity day by day throughout the world. The progress that Science has brought about in the means of travel and the advent of the jet age have helped to increase the tourist traffic in Nepal as elsewhere. Nepal's fast-multiplying diplomatic contacts with the world, her increasing membership of international institutions and the frequent State visits of His Majesty King Mahendra have helped to focus world attention on Nepal. It is a matter of good fortune that Nepal does not lack points of attraction for foreign tourists. The incomparably beautiful pageantry of Nature set off by the world's highest peaks of snow and the long-standing traditions of art and culture combine to create a tourist potential of inexhaustible richness.

Before the inception of the First-Year Plan no steps had been taken towards the development of the tourist industry. It was during the First Plan period that for the first time certain action fundamental to the development of tourism were undertaken, such as the establishment of the Tourist Department and the Tourist Information Centre, a survey of the places of tourist interests and hotels, the distribution of the tourist literature amoug the different tourist institutions of the world, the collection of the statistics on tourism and the guide training programme. In addition, mention may be made of the repair of the bungalow in Kakani, road construction in Nagarkot, erection of a restaurant building in Bhaktapur and construction of the tourist hutment and gardens in Pokhara. According to the recent estimates, the annual average tourists visiting Nepal is 5,000, who spend 450,000 dollars or the equivalent of Rs. 3,420,000.

Present arrangements are not compatible with the facilities which tourists expect. The chief stumbling blocks are the shortage of hotel accomodation and the absence of a national travel agency. Together they have prevented the growth in the number of the tourists and the foreign exchange accruing to the Government has not amounted to what it might be. That is why the targets set for the Second Plan include the expansion of the hotel accomodation, development of publicity services and the creation of the National Travel Agency. In addition, priority has also been accorded to the development of certain places of tourist interest.

Hotel Development: The tourist industry will rise to the peak only if the facilities made available to the tourist are of the highest order. In our country the number of tourists is on the increase every year, but the hotel beds have registered no corresponding increase. Of the hotel beds available at present only 125 meet the international standard, a number, which falls far behind the demand. It means that the problem of increasing the number of hotel beds should be tackled with promptness, if the annually increasing volume of tourists is to be given proper facilities. The Second Plan aims at augmenting the number by 110.

In accordance with the policy of His Majesty's Government, the task of opening new hotels has been left to the private sector. For that purpose the Nepal Industrial Development Corporation is to make available a loan of Rs. 4,800,000.

Development of Tourist Attractions: An inseparable part of the development of tourism is the development of the places of tourists attraction, which leads to two benefits: the average period of stay of the tourists will be prolonged and consequently the income of the State will increase if they can be given facilities to see and visit more places. And the increase in the number of tourists will boost subsidiary industries. The development of Kathmandu, Pokhara and Lumbini is envisaged under this programme.

Since a large number of tourists pours into the Capital city of Kathmandu, the Second Plan aims at constructing view towers, summer sheds, rest houses and restaurants in and around the Valley, particularly in Nagarkot, Kakani, Bhaktapur, Chobhar and Kirtipur. Renovations will be carried out in Siddha Pokhari, Pashupatinath, Taudah and Surya Vinayak. A view tower and restaurant will also be provided in Daman, which is a few hours' drive from the Valley. Pokhara is a promising place from the long-range tourist point of view. Within the Plan period a hotel, a charming garden and water taps will be provided in addition to a motor boat in the beautiful Fewa Tal (lake), a golf course and a view tower looking towards the Annapurna range, or the peak of Machhapuchhre (fish-tail). Lumbini, the birth place of the Lord Buddha, is of great importance both from the religious and tourist points of view. As in other places it will be equipped with facilities of a rest house et cetera.

The National Travel Agency: No national travel agency has ever been established in Nepal. As a result, foreign travel agencies look after the interests of the tourists visiting Nepal from the booking of the hotel accomodation to the arrangement of transport facilities, payment being made for the most part in the Nepalese currency. It follows that tourism has not been able to earn as much foreign exchange as it should. If a national travel agency were set up, the tourists would make payment to it in foreign currency for services rendered and to that extent the foreign exchange earning would increase. The Agency will arrange conduct tours. The proposed National Travel Agency could be a commercial institution run in the private sector with help and encouragement from the Government.

Advertisement: A well-directed publicity campaign is an essential part of the development of tourism. The number of tourists will go on increasing every year, if by the judicious use of the different advertising techniques, persons interested in travels abroad can be attracted to visit Nepal. A step in this direction has been taken with the beginning of the current Plan. The target area at the moment is Norrh America. And the means adopted is the marketting programme. Meanwhile the programme of giving training to tourist guides will be put into operation with greater vigour and imagination. Arrangement will also be made for training courses in modern European languages, hotel management and hotel catering et cetera. Statistics on tourism will be collected and necessary surveys conducted. A building will be constructed in a suitable place to house the Directorated of Tourism.

Education

Nepal's standard of literacy is among the lowest when compared with other countries of the world. This very fact is a clear admission that the education development programme should be pursued with earnestness. Its importance is immense not only from the point of view of the social services but from that of economic development as well. For the requirements of able technicians and competent administrators can be met only in the context of a scientific, all-embracing education system. Development of the educational opportunities helps to promote the intellectual and spiritual personality of the people and enables them to approach the problems of national construction such as the panchayats and land reforms with intelligent awareness.

Educational development, however does not simply mean multiplication of the educational institutions. On the contrary a mere increase in the number of such institutions without determining the content and standard of education, or providing necessary facilities and trained teachers cannot lead to real progress. Unless proper care is taken of these basic factors, the effect will be to create the problem of educated unemployment — a vexatious problem for the future.

Schools and colleges were opened in large numbers during the First Five-Year Plan. But nothing worthwhile was done to meet the shortage of buildings, materials and the lack of trained teachers. Text books were in short supply, and to the prevailing confusion even the existing or available facilities were not put to good use. As a result the decline in the standard of higher education became more marked from day to day. Stress was laid with increasing frequency on the general education as distinguished from the advanced or specialised training. Hence measured by practical yard-sticks the quantity of the educational institutes belief the quality of education. That is why the Second plan has set itself the task of consolidating the existing institutes rather than increasing the number any further except in the case of primary schools. Similarly, adequate provision will be made for technical and vocational training.

Progress To Date

Education was a neglected subject till the advent of the Revolution of 1950-51. The introduction of the democratic set-up in the country in 1951 produced an unprecedented wave of enthusiasm among the people for education, and great things were done in this field. The enthusiasm of the people was ably supported by the encouragement and co-operation of the Government, resulting in an amazing increase in the number of edudational institutes. While there were 1 college, 21 high schools, 203 middle schools and 200 primary schools including the basic schools before 1951, the number reached the following proportion on the eve of the inaguration of the First Five-Year Plan: colleges 13, high schools 85, middle schools 300, and primary schools 1,200. Yet, Judged by what the country needed, this 'amazing multiplication did not even touch the fringe of the prblem.

The First Five-Year Plan turned its special attention to the development of education at the cost of Rs. 19,000,000, it aimed at founding 630 primary schools, 126 middle schools and 10 high schools. Later, on the recommendation of the National Education Planning Commission it changed its target to the following: primary education to 150,000, adult education to 100,000, establishment of more colleges and the opening of multi-purpose schools at the secondary stage by 1962.

The progress achieved in the field of education during the First Plan exceeded in some respects the targets laid down the framers. The number of primary schools reached 3,165. When 1,000 more are added to it in the year 1962-63, as has been decided, a little more than 190,000 boys and girls will get educational opportunities. The normal school programme produced 11,000 trained teachers to work in the primary schools. Achievements at other levels were also equally remarkable. Apart from increasing the number of middle and high schools, the standard of teaching was improved in the existing ones and some of them were converted into the multi-purpose schools in accordance with the need of the country.

The College of Education was set up to train middle and high school teachers. Within the First Plan period the College produced 48 B. Ed's and gave various training to 150 others. The number of colleges jumped from 13 to 28 and a Central Hostel and a Central Library were opened in Kathmandu. More than 46,000 adults were taught the three R's. An Educational Material Procuction Centre to produce and distribute text books and other educational aids to the teaching institutes of all denominations was brought into being, and finally the Tribhuban University was founded. Currently it runs post-graduate courses on various subject.

The education projects under the First Five-Year Plan were based on the report of the National Education Planning Council. And in the concluding stages of the Plan the All-round Education Council was set up. This Council has already submitted its report, taking into account the educational facilities available in the country. The Second Plan has made an attempt to incorporate as many as possibles of the suggestions and recommendations contained in the report.

Programme Under The Second Plan

The main objective of the Second Plan being to make improvements in the organisational structure and to create the basic economic 'overheads', and so the consolidation of the existing social service facilities has been preferred to their extension. Accordingly, the Second Plan will primarily show keeness on organising and systematising the available educational facilities and will make additions to them to a limited extent only. In view of the needs of the development works of the country, emphasis will, however, be laid on technical and vocational education.

The Second Plan has set aside Rs. 40,000,000 for education, which will be spent and expansion the improvement of primary and secondary education, construction of the Tribhuban University building and the National Archive building et cetera. Table XXII below sets out the targets for the Second Plan.

TABLE XXII

	Unit	Existing	Target
Primary School	Number	4,165	1,200
Primary School Students	"	190,000	60,000
Middle Schools	"	500	50
Middle School Students	"	61,580	16,500
Multi-purpose Schools	"	5	10
" " Students	"	125	1,000
Adult Education Centres	"	1,878	4,050
Adult Students	"	46,000	100,000

Primary Education: Until recently the increase in the number of the primary schools was not matched by the extension of complementary facilities such as trained teachers, buildings, text books and provision of an efficient inspection system. As a result the actual benefit accruing to the people was not as much as might have been expected. The present Plan follows the policy of consolidating existing facilities in respect of primary education as elsewhere, and making up for the shortcomings enumerated above. Assistance will be extended to construct one-room school buildings at the rate of 50 each year and more than 200 teachers will be recruited to relieve the scarcity. At the same time, the grants-in-aid to these schools will be stepped up appreciably.

Expansion of primary education is, nevertheless, of vital importance if the literacy standard of our country is to approach or approximate to that of other advanced countries. But the gap is so wide that the efforts of the Government alone cannot be sufficient to bridge it, the simple reason being the limited nature of the resources and the immense variety of problems simultaneously demanding attention in other fields of development. But, the problem will be brought nearer to solution by giving encouragement to the local people to tackle it on their own initiative with a certain amount of financial aid from the Government. In the matter of establishing new primary schools preference will be given to such areas where the population exceeds 2,000 or such panchayat areas where there have been no primary schools hitherto. This is to be the criterion in the first year of the Plan. In subsequent years, however, account will be taken of the demands of the people, their ability to meet the expenses and their interest in education, apart from the purely arithmetical basis of population. Thus within the Second Plan period 1,200 primary schools will be opened at the rate of 400 each year, providing educational opportunities to about 50,000 boys and girls.

Secondary Education: The number of middle schools at present is 500, attended by 61,580 students, which is very much less in comparison with the educational demands of the country and particularly of those who pass out every year from the primary schools. It is logical, therefore, to try to make available opportunities for secondary education to the maximum possible extent. But a point which should be taken into consideration is whether general is to be preferred to professional and vocational education. The Second Plan chooses the latter course in order to meet the needs of the current development works and avoid the possibility of the educated unemployed. For this purpose 10 multi-purpose schools will be opened within the Plan period. Some of them will be new creations while others will be conversions from the existing middle schools. They will produce 1,000 persons trained in different vocational courses for employment in development works. As for the general secondary education, the existing schools will be organised on a better footing. A certain number of selected schools will be assisted to construct school-houses. Under this programme 26 school-buildings will be constructed within the next three years and about 50 new schools will be set up to bring secondary education within reach of 16,000 more students. While establishing new schools preference will be given to those areas where such facilities are absent in toto or very limited in extent. Besides, account will be taken of the standard of primary education prevailing in the areas concerned as well as the interest evinced by the local people.

Adult Education: In an effort to disseminate adult education with greater vigour and firmness, 4,050 adult education classes will be opened in the 75 development districts to raise the literacy figure by 100,000. At the same time, the education period of instruction will be extended to 9 months instead of 6 as hitherto. The literacy drive will be coupled with practical knowledge about agriculture, stock farming and sanitation et cetera through appropriate text books. Adult education is also a specialised job requiring trained teachers to run it smoothly and efficiently. To meet this need 2,000 adult educators will be given on-the-job training during the Plan period. And an inspector will be appointed to each of the development districts to direct and supervise the district-level adult education programme.

Education Material: The purpose of programme is to make available text books and other educational aids to all the schools and colleges in the Kingdom. It has an audio-visual section to prepare block designs, posters, chards, film strips and movies, and a printing press known as the Education Press to print text books, During the First Five-Year Plan 300,000 copies of 45 different text books were published and supplied to the educational institutes under this programme.

This programme will be pursued with greater intensity in the years ahead, as the main objective of the Second Plan in the field of education is to consolidate and systematise existing facilities. The Plan aims at producing 50 different varieties of text books for use at the primary, secondary, and college levels along with adult education centres and normal schools, Greater stress will of course be laid on primary school books, since primary education is at the root of the educational system and it is here that the scarcity of timely books is most widely felt.

A building will be constrcted to house the Education Material Production Centre. It is not felt desirable to forego this basic amenity any longer. Similarly, the capacity of the Education Press has been found very limited. It is unable to print books at a rate fast enough to meet the requirements of the country. Hence, steps will be taken to increase its capacity.

Higher Education: The Tri-Chandra College, erected in 1918, was the only institution of its kind existing in the Kingdom before the Revolution of 1950-51. This monopoly was broken after 1951 when the enthusiasm of the people ably supported by the Government resulted in the establishment of more and more colleges. The figure now stands at 31 as shown below :-

	Inter	Degree	Total
Arts	9	15	24
Science	1	1	2
Professional	3	2	5
Total:	13	18	31

Of the above 6 are Government colleges and as such their entire expenses are met out of the State revenue. The rest enjoy Government grants-in-aid. It must be granted that the increase in the number of colleges is fairly impressive. But when we examine their internal conditions, the conclusion is inescapable that quantity has been emphasised much more than the quality. It does not seem to bear any relation to the needs of the country. A look at the table above shows that the establishment of the arts colleges has received disproportionate attention. Without regard to the fact that they do not fulfil the demand of the country for more and more technicians. It allowed to go on at this rate, the situation might well breed in future the problem of the educated unemployed.

In consideration of all these facts, the Second Plan will pay greater heed to the task of consolidating the facilities available to the existing institutions for higher education. A study will be made of the existing institutions in the context of the needs of the country and their number will be limited to what the country actually needs. In other words, the Government will continue to make available to these institutions the annual subventions so that they may continue to be the beneficiaries of the limited financial resources of the country. Thus the Second plan will turn its full attention to the consolidations and improvement rather than multiplication of the existing colleges and other institutions of higher education with a view to upgrading the standard of teaching all over the country. A text book library will also be opened duriug the Plan period to remove the difficulties facing the student community.

The Tribhuban University: On the recommendation of the National Education Planning Commission the Tribhuban University was founded in 1959 to facilitate the propagation of higher education. In the beginning it opened classes in eight departments under the Faculty of Arts, while at present it has admitted 300 students to the post-graduates courses in Nepali, English Hindi, Sanskrit, Economic, Political, Science, Mathmatics, Geography, History, Culture and Commerce. During the Second Plan period an attempt will be made to open Science classes to provide the basis for advanced training in technology. Difficulties are, however, likely to arise in the implementation of the extension programme if the construction of the proposed University building in Kirtipur is not completed in double-quick time. The Second Plan will see the completion of a library building, a chemistry block, a dormitory and a building to house the staff and the administrative unit.

The Tribhuvan Library has at present about 10,000 books and when the Central Library is merged with it the figure will reach 35,000. The Second Plan will make every possible effort to expand the library and house it in a suitable building of its own.

National Archives: That Nepal has a rich treasure-house of ancient manuscripts is sufficiently borne out by the collections in the Bir Library, Nepal National Library and elsewhere. Present estimates put their number at 40,000. But unfortunately up to now no effort has been made to catalogue them and preserve them in a suitable building. If they are not properly stored they may succumb to the ravages of time. It is exactly to preclude this possibility that the programme of erecting the National Archive has been taken in hand. The Second Plan will incur an expenditure of Rs. 1,000,000 to collect and catalogue the ancient manuscripts. They will be micro-filmed and laminated in the modern way and will be stored in the National Archive building to be constructed within the Plan period.

Health

The general public should be of sound health in order that they might be able to offer their fullest co-operation in all nation building activities. The people of Nepal suffer from dietary deficiencies and fall an easy prey to the epidemics of cholera and smallpox and the attack of other perennial diseases like tuberculosis and malaria, reducing the per capita productivity of man-power. These diseases take a heavy toll of life every year and reduce a still larger number to disability and helplessness. The result is not only that a wide section of the people is kept away from the productive work but that the limited resources of the country have to be diverted to public health services.

Before the beginning of the First Five-Year Plan health service facilities were very much less in proportion to the area and population of the Kingdom. The entire country had 34 hospital beds (649) were centred in the Capital city of Kathmandu. Other facilities were 24 dispensaries, 43 Ayurvedic clinics and 15 health centres of various kinds. Prophylatic services were virtually nil.

Progress in the realm of health under the First Five

Year Plan was relatively more satisfactory. The increase in the number of hospitals was not impressive, yet 149 hospital beds were added and the grants-in-aid to the various health institutes were stepped up. The dispensaries were converted into Health Centres and new ones were created to bring the total to 94. Chest Clinic was established in Kathmandu and financial aids were extended for their construction in Biratnagar and Dhankuta. 57 Ayurvedic Clinics were founded and 8 beds were added to the Ayurdedic Emergency Ward In the war against malaria D.D.T. was sprayed to immunise 2,000,000 people Health Units were attached to 16 of the Village Development Blocks to make available for the first time to the people preventive measures against various diseases. A building to house a 50-bed hospital was constructed in Kathmandu and financial aid was given to procure equipment for the Maternity Hospital, a premier institute of its kind in Nepal.

Despite the progress outlined above, health services in the Kingdom were not up to the mark. The increase in the number of the rapeutic institutions was handicapped by shortage of doctors and nurses, inadequacy of medicine and surgical instruments and the poor condition of the hospital buildings. As a result the existing institutions have not been able to serve the community as much they ought to have. All things considered, the Second Plan has decided to consolidate and improve the existing facilities and add to them only in order to fulfil the need of those places where the health services are non-exist in name only. Preventive measures will be emphasised more than curative ones. Table XXIII below sets out the targets of the Second Plan.

TABLE XXIII

	Unit	Existing	Plan Target
Hospital	Number	39	3
Health Centre	"	93	10
General Hospital Beds	"	903	290
Specialised Hospital Beds	"	116	—
Smallpox Eradication	Population	—	450,000
Malaria Eradication	"	2,000,000	4,500,000

The Table takes account of the hospitals run by the Government only. The number of private hospitals is believed to be 14 and the number of beds 200.

Hospitals: The number of the State-run hospitals in the Kingdom is 39 with the number of beds totallling 903. But there is a great deal of diversity in the size and facilities of each. The biggest of all, the Bir Hospital, has 168 beds, and the number of beds in the hospitals of Birgunj, Biratnagar and Nepalgunj 50 each within the First Plan period. Other hospitals have beds ranging from 7 to 25. It may also be noted that hospital facilities are not available uniformly throughout the Kingdom. Of the 14 zones into which the country has been divided, 3 have no hospital of any sort.

The Second Plan aims at establishing hospital in such places where they do not exist and improving the condition of those which exist. The three zones referred to above, namely, Mahakali, Karnali and Gandaki, will each have a 15-bed hospital. In addition, three or four zones seem to stand in need of hospitals of fifty or more beds in order to exercise technical control and supervision. Four such hospitals are already in existence and two more hospitals of Bhairahwa and Jaleswar with 10 and

25 beds respectively will be enlarged to 50 bed ones. Under this scheme technical and clinical services will be made available to Mahakali, Seti, Karnali, Bheri and Rapti zones through the Nepalgunj hospital; Dhaulagiri, Lumbini and Gandaki zones the Bhairahawa hospital; Bagmati zone through the Kathmandu hospital; Narayani zone through the Birgunj hospital; Janakpur and Sagarmatha zones through the Jaleshwar hospital; and Kosi and Mechi zones through the Biratnagar hospital. This programme will result in the increase of 65 hospital beds

As part of the programme to improve the extension of the facilities and the renovation of the building of the Bir hospital, now under way, will be completed. The completion of this programme will make available expert services in dermatology, opthalmogy, ear, nose and throat affections' onestretics, gynocology and the rest of it. Other fifty bed hospital will have the facilities of surgery and midwifery apart from general medical treatment. As rule these hospital will be equipped with facilities to treat such cases as are the beyond capacity of other zone hospitals. Kathmandu will have the additional services of the fifty-bed hospital, which is now under construction.

Health Centres: Of the 75 development districts, only 65 have a hospital and health centres of the own. The purpose of the health centres is to give vaccinations or inoculations, take sanitary or hygiene measures and take other preventive precautions. Some of these Centres, numbering 15 are manned by medical officers.

The existing Health Centres are not functioning well because of the lack of necessary medicine, equipments, technicians and buildings. Target number one under the Second Plan is to provide them with such essentials and target number two is to open such Centres in the ten districts where they do not exist — in Darchula, Bazura, Simikot, Tibrikot, Dolpa, Manang. Mustang, Lho, Rasua and Sankhuwa Sabha. Medical officers will be appointed to 15 more Centres and in the districts where there are already medical officers emergency beds will be set up on the basis of six to each centre. It will mean an increase of 180 beds.

In addition. the hospitals and health centres located in the present district headquarters will have veterinary and child welfare facilities. For the latter purpose a lady medical officer will be appointed to each of them. Presently only 11 districts out of the 35 have such facilities. Kathmandu, being the Capital, may have training facilities and the hospital here will have an x-ray unit and a pathology unit.

Preventive Measures

Malaria Eradication: As in other countries of the world, the Malaria Eradication Department was founded in Nepal to launch an anti-malaria campaign. For this purpose the country was divided into three zones to free within a period of ten years 4,500,000 people living under the shadow of the dread scourge, divided into 2,400,000 in the middle zone 1,300,000 in the east zone and 80,000 in the west zone. Programme to end in 1970, the activity is chiefly centred in the middle zone where the spray of insecticides has almost been completed. In certain parts of the area tests are being undertaken, more than 50 per cent of which will be completed in the Second Plan period. Within the same period insecticides will be sprayed over the greater part of the east zone and a beginning will be made in the west zone. In other words, the Second Plan will see the completion of the greater part of the task of immunising 4,500,000 people against malaria.

Smallpox Eradication: Initially the smallpox eradication programme will be initiated on an experimental basis with the help of the world health organisation as in the part of the world. This pilot project will first of all be launched in the Kathmandu Valley where 450,000 people live. The tasks of keeping a register of the Valley dwellers and training 25 technicians have been completed. Within the Plan period all the inhabitants of the Valley will be inoculated against smallpox.

Leprosy Eradication: In the absence of statistical data it is rather difficult to state the incidence of leprosy in the Kingdom. There can, however, be no doubt that it should be banished lock, stock and barrel. In the whole of the Kingdom there are at present two leprasariums—in Kathmandu and Malunga—in addition to 4 clinics in Kathmandu. If this dreadful scouge is to be eliminated, a study must be conducted to find out the infectious and non-infectious cases. And the process of eradicating it should be confined to a small scale in the beginning. Accordingly, it will be limited to the Kathmandu Valley in the Second Plan period. The first part of the programme will be to conduct a survey on its incidence and the second will be to isolate the victims and treat them.

Public Health Service: The end and aim of the public health service is to prevent epidemics, to take sanitary and hygienic measures, to institute maternity and child welfare and to enlighten and educate the people on health questions. The first attempt of this kind was made in the Rapti Valley. One of the main objectives under this programme was to train the necessary technicians such as health workers, health assistants, sanitarians and nurses. The Second Plan will also concentrate much of its efforts on training and general enlightenment in addition to producing health workers and assistants, nurses and midwives.

Public Health Laboratory: A laboratory will be established under the Second Plan to prevent the spread of infectious diseases, to immunise food and drinking water from germs, to make bacteriological tests and analyse food and water. The laboratory will be composed of three sections: Bacteriology, Texicology and Food Technology. By the third year of the Plan construction works will be completed and the laboratory will go into operation.

The Ayurvedic System: Presently there are 100 Ayurvedic Clinics in addition to a 16 — bed hospital in Kathmandu, of which 57 were founded during the First Plan period. Kathmandu has also a teaching institute Within Second Plan period further arrangements will be made to run them smoothly. Similar steps will be taken in respect of the Homoeopathic medicine. It might be recalled that in the recent past 3 homoepathic dispensaries were set up in Gulmi, Palpa, and Dhankuta in addition to a homoepathic hospital and a dispensary existing in Kathmandu.

Drinking Water

There are places in Nepal where the people suffer from the scarcity of drinking water. This may sound paradoxical in a country like Nepal where the snow-fed perennial rivers flow in plenty. In some places water has to be borne from afar while in other places the available water is not fit for drinking purposes. If drinking water could be made easily accessible to those places where people suffer from the lack of it, not only would much labour be saved but public health would be improved. A rise in the standard of living of the people will also demand more water facilities. A programme should, therefore, be initiated right now to provide enough water to meet all eventualities.

About fifty years ago the Mahadev river was dammed to supply 525,000 gallons of water a day to the Capital city, Kathmandu, through a cast-iron pipe-line of 8-inch diametre. After about 25 years the supply proved inadequate for the increasing population and the rising standard of living and a reservoir was built at Godavari to supply 190,000 additional gallons of water per day. The demands of the people of Patan and Bhaktapur were met by separate arrangements. Later in 1950 a filtration plant was installed.

The population went on increasing and a fresh search had to be made for new supply sources. During the First Five-Year Plan the following projects were implemented to step up the water supply to Kathmandu to 976,000 gallons per day:—

Project	Increase in Supply in gallons per day
Panchamane	300,000
Karki Manthali	35,000
Balambu	36,000
Sankhu	80,000
Vishnumati	200,000
Chhare	300,000
50 Hand Pumps	25,000

Apart from these, the following projects were executed in the following places to supply the following quantities of water:—

Project Name and Place	Increase in Supply in gallons per day
Amlekhganj	100,000
Dhulikhel, East No. 1	30,000
Panauti East, No. 1	93,000
Sanga East, No. 1	13,000
Satau Darau, West No. 4	16,000
Bhimad Bazar, Pokhara	4,000
Sil Garhi, Doti	45,000
355 Hand Pumps in the Tarai	175,000

Target of the Second Plan: The Three-Year Plan aims at increasing the water supply by 9,050,000 gallons in the Kathmandu Valley, district headquarters and other placee where there is scarcity of drinking water. The allocation of Rs. 24,000,000 and the period of three years are both insufficient to meet the entire requirements of the Kingdom. For this purpose rivers, cataracts and subterranean resources will be harnessed.

Project	Place	Additional Supply per Day	People Benefiting from it
Sundarijal	Kathmandu	3,200,000	122,500
Pokhara	West No. 3	600,000	—
Lalitpur	Kathmandu Valley	200,060	48,577
Bhaktapur	Kathmandu Valley	800,000	37,075
Biratnagar	Morang	450,000	33,293
Birgunj	Parsa	325,000	10,759
Nepalganj	Banke	200,000	15,817
Hetaura	Chitwan	300,000	
Janakpur	Mahottary	,,	
Rajbiraj	Saptari	200,000	
Bhairahawa	Majhkhanda	,,	
Dhan Garhi	Kailaly	,,	
Jhapa	Morang	,,	
Eastern Hills	—	225,000	
Western Hills	—	300,000	
Tube Wells	—	1,200,000	
Miscellaneous	—	100,000	

As the available water resources in the Kathmandu Valley carry minute particles of mica the presence of which is harmful to health, a filtration plant with 2,500,000-gallon capacity will be installed in Kathmandu. The old pipe lines which are broken in places and encrusted with rust will be replaced with new ones to maintain the standard of purity of the filtered water. The need of the villages will be looked after by the village panchayats with the co-operation of the local people and financial grants from the Government. They will dig ponds or wells or sink hand-pumps or whatever is suited to the local conditions. The panchayats will also see to the construction and maintenance of small reservoires and pipelines.

In most of the countries the practice is to entrust municipalities, corporations or other local bodies with the task of keeping the water supplies operative because the problem is regarded as of local importance demanding local initiatiave, but in Nepal, however, the Central Government is responsible for the service. This state of affair cannot continue in the days to come when drinking water facilities become available in the different parts of the country as a result of the successful implementation of the projects outlined above. But in view of the undeveloped nature of the local bodies and the adequacy of the means, at their disposal, it would not be wise to ask them to shoulder the responsibility forthwith. It should be a gradual process. A beginning will be made with the village panchayats, and the municipalities or the city panchayats will come next.

Sport And Recreation

Sport is of major importance not only as a means of health giving recreation but also for the development of the basic spiritual qualities like mutual co-operation, goodwill and discipline. In this age when sports tournaments among nations are increasing in popularity, development of sport has become essential to the furtherance of national prestige abroad.

Nepal trails far behind other countries in the matter of sports. Lack of official encouragement has kept popular interest from growing and it is high time that something is done right now in the field of sport and recreation.

Prior to 1951 there was not a single sporting organisation in the Kingdom. People's interest in sport became more and more evident after 1951. It was fostered by their increasing awareness of the importance of sport it was proved by the number of national sports organisations which came into existence. Nation-wide competitions began to be held with increasing frequency and the Nepalese athletes entered the international arena with greater credit. But these voluntary associations were financially weak, and it has obvious that unless the Government came forward with assistance, they would not be able to make much headway. Official assistance and encouragement being of such vital importance, the National Council for Health and Sport was founded in 1961 followed by the establishment of the Central Sports Depratment under the develepment programme for higher education and colleges.

The current Three-Year Plan lays stress on the provision of necessary facilities for the development of sport. Under the aegis of the National Council for Health and Sport, the existing National Stadium will be expanded to seat 15,000 spectators. A modern and compact indoor stadium will be constructed to stage badminton, tennis and basket-ball matches. It will accomodate 2,000 spectators and will provide living quarters for the visiting sportsmen. A swimming pool will also be built.

The Council will open district branches to arrange for nation-wide sports competitions. The services of foreign coaches will be utilised in order to raise the standard of sport and train the athletes. Foreign teams will be invited to play exhibition matches. Under the higher education development scheme every college high school and middle scoool will be equipped with sport goods to arouse interest in sports among the students. And every year regional and national tournaments will be organised.

The End